THE FLORIDA SENATE

SELECT COMMITTEE ON PROPERTY INSURANCE ACCOUNTABILITY

DATE: FEBRUARY 19, 2008

TIME: 8:40 a.m. - 11:45 a.m.

PLACE: ROOM 412, KNOTT BUILDING

TALLAHASSEE, FLORIDA

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SENATOR JOYNER

SENATOR LAWSON

SENATOR PEADEN

SENATOR RING

SENATOR SAUNDERS

SENATOR STORMS

P R O C E E D I N G S

MS. JARVIS: The quorum is present, Mr. Chairman.

THE CHAIRMAN: Thank you. Members, we are on a very tight time schedule today. We have approximately three hours left, and we will be hearing three presentations today.

Today we have invited an expert on reinsurance that will be our first speaker that was recommended to us from OIR, Mr. Paul Walther with Reinsurance Directions, and I will be introducing him momentarily. We will then have a panel of representatives of the Florida Commission on Hurricane Loss Projection Methodology.

As you-all will recall, there were a lot of questions on that at the last meeting. The Florida Commission on Hurricane Loss Projection Methodology is the state commission that reviews and approves hurricane loss projection models for use by insurers in rate filings and for establishing the rates charged by the Florida Hurricane Catastrophe Fund. You will again recall the substantial discussion on the use of approved versus unapproved models.

The last panel will include representatives of

AIR Worldwide Corporation, which is one of the leading private modeling companies. We, again, have a court reporter today transcribing this meeting -- hi, Court Reporter -- and all testimony will be under oath.

Again, Mr. Paul Walther of -- CEO of Reinsurance Directions will be here now providing additional information to the Committee about the private reinsurance market. The Office of Insurance Regulation has engaged Mr. Walther to assist them and their contract actuary, Robert Hunter, in preparing the Presumed Factor Report for insurers to make rate filings reflecting the savings of the expanded Cat Fund coverage provided by House Bill 1A. And, again, we are -- we will have been told about a general softening in the reinsurance market, which Mr. Walter will be able to testify on.

Tab 1 of your yellow packet contains background information on Mr. Walther and an outline of his presentation so that you will be able to follow along.

Tab 2 contains various articles and reports on the state of the reinsurance market, which our staff has included and is provided to Mr. Walter

for his reference. Again, we are not making any warranties that our staff has caught every article. We believe that these are representative samples of the articles.

We would like to welcome Mr. Walther here today. Mr. Walther, since we are taking all of our testimony under oath, are you prepared to testify under oath today?

MR. WALTHER: Yes, I am.

THE CHAIRMAN: Okay, sir. Please raise your right hand.

* * *

Thereupon,

PAUL WALTHER

was called, having been first duly sworn, was examined and testified as follows:

THE CHAIRMAN: The witness's answers shall be noted in the record.

Mr. Walther, again, sir, we really appreciate your being here today. You're recognized, sir.

MR. WALTHER: Thank you, Mr. Chairman and Committee. I'm delighted to be here. My apologies for having to delay my appearance due to a health problem, which I'm pleased to say is cleared up and I'm back to normal.

In any event, the purpose, as I understand it, for the discussion today is to give the Committee a sense of what reinsurance is all about, how the game is played. I tend to speak rather quickly. I understand that we do have a tight timeframe, so I will try to move along as quickly as I can, saving time at the end for questions.

For the most part it's quite clear, generally speaking, that oftentimes the reinsurance tail wags the insurance dog. The prices charged for reinsurance in the marketplace are often passed right along in some fashion or other to the insurance consumer by virtue of the insurance rates that they are required to pay.

So basically my comments here today will deal with my role with the OIR and the Department, including the presumed factor responsibility that I had last year, as well as to give you a sense of really what this market is doing, including some options that may already be considered and may be considered going forward as ways in which to mitigate the crisis that we face in our state.

Insofar as my personal credentials, I won't dwell on those. You have in front of you, hopefully, my resume. Suffice it to say that I've

spent more than actually 45 years now in the business, the first 3 and a half as a broker, the next 20-plus as a reinsurance underwriter, the person who actually takes reinsurance risk. And also I was involved during that period of time with placing reinsurance. The last 20 years have been as a reinsurance consultant, and the last 10 of those years I have had my own firm, established, again, about 10 years ago.

With regard to my involvement with the OIR, I am pleased to say that over those past 20 years I've been involved in various projects, including reinsurance collections, the collections by an insurance company of the proceeds from their reinsurers to pay losses.

I've also been privileged to be involved in contract analysis, to review contracts that may be questionable by the OIR, or the Insurance Department at that time, with regard to transferring risk, which is really what insurance and reinsurance is all about, and the degree to which risk was transferred under certain questionable reinsurance contracts. I've also been privileged to deliver several seminar presentations to the OIR and the staff, and I've been delighted,

again, with the reception of those.

THE CHAIRMAN: If this were a court hearing I would now say, as a judge, we accept you as an expert witness.

MR. WALTHER: Thank you, sir. I think it's important, a couple years ago, to mention that I was involved, on behalf of the OIR, to evaluate the ability of several Florida companies to withstand, by way of reinsurance, a one-in-100-year storm. So that basically was a review, again, of the security provided by those insurance companies by virtue of their reinsurance programs.

I know that what's most important to this committee is the presumed factor effort that took place last year. And basically my role in that effort was to assist Bob Hunter, be a member of his team, in determining as best we could the difference between what the private reinsurance sector would charge versus the savings that would be gleaned from the reinsurance provided by the expanded Florida Catastrophe Fund.

Basically, my role in that regard was to analyze roughly 10, 12 reinsurance programs, including the contracts that made up those programs, and determine, again, what those costs

were in relation to what was being charged by the Cat Fund. The focus there was to provide Mr. Hunter and the OIR with an assessment of the pricing, again, of the private sector contracts.

The information provided from my analysis then sort of went into the mill, compared to the prices charged by the Cat Fund, and then related to the insurance pricing that went out to the consumer. So, again, my role pretty much was dedicated to helping the OIR determine exactly what the price was for equivalent coverage provided by the private sector and similar coverage that -- where there could be savings, again, in the public sector through the Florida Cat Fund.

THE CHAIRMAN: Mr. Walther, were you able to obtain all of the information you needed to get an accurate evaluation?

MR. WALTHER: I believe so. The sampling was -- you know, there is a question as to, I guess, the validity of the sample. There were, I want to say, roughly ten or twelve companies, and these companies, within the context of their program, you know, had anywhere from four or five, six contracts that would have been impacted by the expansion of the Cat Fund. So I feel that the

cooperation was excellent. I think the team did a yeoman's service, Mr. Hunter particularly, and I was privileged to, again, serve in the role that I did.

Now, with regard to expectations coming out of that effort, I mean, basically the charge was, okay, what would the savings be on an equivalent basis? And we tried to determine that. And I think that the result was that, all things considered, it looked to be roughly a 20 percent savings to the Florida consumer which somehow would be filtered through the rating process and impacted in the various -- you know, by the various component rates of an insurance policy.

Again, I think it was legitimate to say that, yes, if the insurance company bought equivalent reinsurance from the Cat Fund on the same basis, there would be a savings. You know, whether it ended up truly to be 20 percent in each case remained to be seen; and, of course, there were the true-up efforts, you know, to demonstrate by which the insurance companies could demonstrate whether or not the savings were there or not.

Well, what happened? I mean, clearly, you know, the Governor was concerned and is concerned

about the fact that the savings have not trickled down to the Florida consumer. And why is that? The reason for that -- and I should tell you that the insurance industry -- or I should say the reinsurance industry at the time, was quite concerned that by switching an insurance company's allegiance from the private sector to the public sector, or to the Cat Fund, that the loss to the industry would be in the range of $2 billion.

As it's happened, that hasn't been the case. They have suffered, if that's the right word, far less of a premium or top-line reduction in the premium flow to the reinsurance market, which, quite frankly, I think is one of the reasons for concern that Governor Crist has expressed.

What happened was that, yes, the insurance companies were and are required to buy reinsurance again from the Cat Fund in various percentage levels. But insurance companies being, you know, in some cases, risk adverse, were concerned about the ability to recover from the Cat Fund.

But more than that, I think the main issue there was whether or not the Cat Fund truly provided the insurance companies with the protection and the security that the insurance

companies needed and their policyholders needed in the event of significant wind storms. And by that I mean to say that it's one thing for a company to buy a coverage, if you will, $12 billion, $25 billion, whatever the coverage is, for a single event, but what happens if there is more than one?

And as long as I've been in the reinsurance business, and particularly in my underwriting days, I was always afraid of not one, but two or three or four. And clearly, you know, in 2005, you had the Gulf Coast storms; and in 2004 you had obviously four storms, you know, three of which crisscrossed Orlando where I live, and here I thought we were immune.

But, in any event, the point is that the Cat Fund is, in my view, a very critical cog in the Florida protection wheel, as is Citizens. But the Cat Fund has limitations. It's a bit of a complicated structure. It also has a limitation with regard to obviously the amount of coverage that they can provide on an aggregate, in other words, on an annual basis, versus on a single-storm basis.

So, again, what happened? The insurance companies looked at the savings that they realized,

and they did realize savings, I'm sure, in terms of buying Cat Fund coverage over the private sector coverage. But then they had to take a second look at the security, at the pressures applied to the insurance company by the rating agencies, by the regulators in order to maintain the security by which to pay and live up to the obligations to their policyholders.

And so what they decided to do, generally speaking, is, okay, we appreciate the coverage, but we need more; we need either, you know, a second event, third event, fourth event coverage, or we need more up top or more down low. And I'm not about to stand here and tell you what an individual insurance company believes it needs, why it needs it and why it does what it does, but it has to look at top line and bottom line, and it has to, again, be conscious of the security it provides, you know, again, to the Florida consumer.

And, you know, without the security there, regardless of how much is saved at the opening bell, it doesn't make a hill of beans of difference if the money isn't there to pay the claims at the end of the day.

Basically, the reinsurance process, just

getting into just a brief overview of the business itself, the insurance company buys reinsurance to transfer its own risk, to hedge its bets. It needs to spread its risks. It also needs to provide capacity for its consumers.

To some degree, a small insurance company with $30, $40, $50 million worth of capital, you know, can't write maybe the high-rise condominiums or the commercial risks that it could otherwise do if it were to lay off some of that risk to the reinsurance sector. Again, this is not something that the Cat Fund is concerned about, but it, again, is one of the purposes of reinsurance.

It looks at reinsurance as a loss-leveling vehicle. It looks at reinsurance to provide coverage for not only the horrendous loss, the big hurricane, but the frequency of smaller storms which may not be covered by the Cat Fund.

So you have a situation where you have tropical fronts coming through here from time to time; you have the tornados; you have fires; you have all kinds of things affecting our state that don't lend themselves necessarily to coverage by the Cat Fund, and it prompts the insurance companies, you know, to look elsewhere and look

into the private sector to make sure that their balance sheets are protected and the security is provided to the Florida consumer.

In addition, you know, an insurance company also looks at the reinsurers to help it from time to time, you know, to write different risks from what it might normally write.

But the main thing, of course, and what's near and dear to the hearts of all of us and those of us who live in this state, is catastrophe protection. What is going to happen when we have the next big one, two, three, four, and is there enough money out there, regardless whether it's the Cat Fund or the private sector, to cover the big one to come into Miami and to Tampa, and heaven forbid any of that happens any time soon.

I think what's important for me to mention to this committee is that we're dealing with a risk-spreading mechanism, sort of the law of large numbers. Well, the law of large numbers means that collection of premiums from the many to pay the losses of the few. It doesn't necessarily mean the collection of the premiums from the many, you know, to pay the losses of the many. But in a way that's sort of what we have in our state with regard to

Citizens, you know, the pressures applied by Citizens and the Cat Fund.

Now, I'm not going to stand here and tell you that we don't need either one of those markets. We surely do. They serve a very, very valuable purpose to all of us. The question at the end of the day, though, is whether their market is a first resort or last resort, and I think we need to deal with that.

Insofar as the reinsurance contracts and programs are concerned, they run the gamut of being very simple, a situation where a loss, for example, of $20 million is payable if the loss exceeds $10 million dollar. In other words, if the loss is into the marketplace, or a company suffers a loss of $10 million, it may be able to cope with $10 million, but it can't cope with 30, so it buys cover of $20 million, excess of $10 million, and it generally pays a flat fee for that. And the fee is generally based and geared to the premium in relation to the amount of limits that's provided. And, again, it's a very simple process.

We do then move into areas to expand capacity which are financial in nature. And we'll deal more with that a little later. But it's important for

each of you to know that within each program, depending on the size of the insurance company, you may have multiple contracts with multiple reinsurers and multiple brokers. The point being is that the programs -- the individual contracts might be very simple, but the programs themselves may end up being very complex by virtue of the way in which the various contracts interact with each other.

There's also something called traditional versus non-traditional reinsurance. Traditional reinsurance basically is a situation, just to follow the train, where a consumer buys insurance through his agent sought from State Farm. They buy insurance through an agent, the agent places that insurance with an insurance company. That insurance company then needs reinsurance. So where does it go? It will go to its reinsurance broker or its agent and seeks to have that agent place its reinsurance with the worldwide reinsurance marketplace or with broker-oriented markets. You do have in business, as well, a State Farm sort of composition where certain companies will do business directly, you know, again, with the insurance carriers.

So you have -- again, there are a variety of different ways, you know, to skin the cat, and each company will look at its program, discuss those programs with its agents, you know, and its brokers to try to determine how best to shape its policy.

Now, one of the issues that is going to be addressed later on this morning has to do with modeling. And modeling in recent times and maybe the last, I don't know, five, ten years has been extremely critical to enable the insurance and the reinsurance companies to determine its exposures, its exposures in a one-in-100-year storm, a one-in-250 storm, and the like.

There, as we all know, are a goodly number of modeling agencies, as there are reinsurers and reinsurance intermediaries; and the proof in the pudding, I guess, at the end of the day is how viable these estimates are. And the proof, again, is from the Andrews and the Katrinas of the world in terms of how close the modelers come to analyzing the losses that might be anticipated from the exposure level.

But with regard to the reinsurance community, I would tell you that there is, from my experience and general knowledge, there is no one particular

model that does it all. I know there's one major reinsurance market in Bermuda that takes several different models and makes its own to determine, again, where its exposures are. But I guess the question at the end of the day when you really get right down to it is, okay, what does a reinsurer do with its model?

And the reinsurer is going to look at its model and determine, ah-ha, well, this company has exposure in Florida, in Miami and Dade County, over in Tampa, and we're going to look at this and we're going to determine whether it's primarily a Florida company, and if so, we're going to rate this company accordingly.

So they do pay close attention to where the exposures are. And once they determine where the exposures are, they will price the reinsurance contract accordingly, looking to basically relate the premium to the exposure and the coverage that they provide.

You've heard maybe a few things -- you know, a few comments from time to time on as respects rate-on-line, which basically is the percent by which a premium, you know, bears the percent of premium in relation to the coverage length. And

basically the higher that relationship, basically the less risk the reinsurer is theoretically taking by assuming that contract.

But there's also another phrase that maybe you haven't heard, and that's sort of the -- another way for reinsurers to view their exposure in the event of loss, and that's payback. How many years is it going to take to pay back a loss? And so basically you reverse the equation and you have -- the numerator becomes the amount of capacity, the coverage provided, and the denominator is the amount of the premium.

Now, one thing that's important for you to know is that there's something called a reinstatement premium that gets played into the mix that basically, it's my understanding -- that the Florida Cat Fund doesn't have. And it's just as well, because there was one contract, as a for instance, to give you some idea why there was every good reason for, you know, the Legislature's concern last year for this problem, is if you have -- the insurance company was faced with a need, you know, to buy coverage, to buy reinsurance, to buy adequate reinsurance, to make sure that it lived up to the security expectations

of the OIR.

So among the contracts that I've evaluated over the past couple of years was one contract -- just to give you a sense of how bad it gets and can get, we had a situation where there was a contract that provided a limit of $45 million. And I don't remember the retention. The price for that contract was $22 and a half million, so basically a payback of one year or two years. But built into that program -- and that contract was a reinstatement premium.

So even if, you know, you have a situation where the first limit is one storm that exhausts the $45 million, you know, limit, immediately the insurance company has to pay a second premium which basically wipes out the loss, you know, at least insofar as that first loss, without the reinsurer paying a dime, in effect, but for the fact that the reinsurer pays the reinsurance broker 10 percent of that money.

And that's what's sort of interesting to me, and we will address that in a second, is the fact that in the traditional market these basic contracts have remained pretty much stagnate -- not stagnate, but the same over time. And particularly

in the catastrophe area, you have limits in excess of retentions for flat amounts of premium, including reinstatement premiums, and the broker gets, you know, his percentage, and often certainly rightfully so in many cases. But that percentage has remained rather significant.

With regard to the market as a whole, the market as a whole is an expanding market right now. There's a lot of capacity out there, and the reports that you have in your packets indicate that. Not only has the market expanded, but the prices are coming down because we haven't had any losses the last couple of years. And that's great for all of us, and it's great for the community.

Sometimes, though, from a reinsurer's perspective, it's not so great, they have to scramble around to find out, you know, where else they should put their money or how else can they make a buck for their shareholders. And so they're scrambling and doing some different things. And you have situations where reinsurers in the U.S. are moving to Bermuda; Bermuda reinsurers are looking to establish footholds in Lloyd's; and you have -- you know, the reverse is true, you have Lloyd's syndicates coming into Bermuda; and also

you have reinsurance operations setting up insurance operations here in the state, which to the degree that they expand our capacity in Florida, that's terrific. The more money we can get into our state, obviously the better.

With regard to the process in terms of the value of a reinsurance intermediary, for example, I would say, I mean, I having been one early in my days, the reinsurance broker and the intermediary is an invaluable cog in the wheel. Each company needs the wherewithal to come in -- as a matter of fact, not only each company, but even the Florida facilities should take full advantage of the facilities and the abilities offered by reinsurance brokers, such as Guy Carpenter, Willis, Aon, Towers Perrin and Benfield, Benfield being a very major player, I know, with regard to the Cat Fund.

THE CHAIRMAN: Mr. Walther --

MR. WALTHER: Yes, sir.

THE CHAIRMAN: -- you will need to wrap up in about five minutes, because you have a total of 25 minutes left in your presentation and we need time for questions.

MR. WALTHER: I appreciate that, Mr. Chairman. I will do just that.

To wrap up, basically you have -- the business is a cyclical business. If the losses come, the premiums will go up the next year. Similarly, if there are no losses, the premiums tend to go down. It's a cycle. Just like an accordion, it expands and contracts depending on, you know, what the market is doing.

The one that -- in closing, I would like to suggest to this committee and to the powers that be in our state, I do think that the Legislature was on track and I think it was in the best interest of Florida consumers to expand their capacity of the Florida Hurricane Catastrophe Fund, similarly with Citizens; but the concern that I have, and as a resident as well in Florida, is the likelihood that you could have storms crisscrossing the state.

We pay heavy deductibles. We recover whatever we can from our insurance companies. And to be faced with additional assessments from the insurance community, from Citizens or from the Cat Fund, is an extreme burden -- could be a very, very extreme burden for all of us.

I think it's important that whatever effort can be made is made to tap into the Florida -- not the Florida, but the external marketplace, Bermuda,

Lloyd's, the private sector. It's out there. It's got lots of money. But one of the things that also should be considered is tapping into the financial markets, which is -- you know, there is a question as to how much of that has been done.

I think with the sophistication -- the investment sophistication of Citizens and of the Cat Fund, I think it's important that, as best we can, we tap into things like insurance-linked securities and other vehicles that would enable us to spread the risk beyond our boundaries.

One last comment, Mr. Chairman, is the fact that I think pressures ought to be applied to the private sector to be more innovative in the products that they deliver. I think it's important that, to some degree, we establish maybe a savings mechanism where the heavy premiums that we pay in the loss years are put aside and allowed to accumulate in some fashion.

I know that aside from Citizens and the Cat Fund, those savings aren't tax exempt. But if somehow favorable tax treatment or favorable rating terms can be negotiated with the private sector, I think that there ought to be a way in which to spread the loss, not only geographically, but over

time as well.

I think that's about it, Mr. Chairman.

THE CHAIRMAN: Thank you, Mr. Walther. I just have a number of questions, and then I'll go over to the members.

Okay. The first -- by the way, in reference to the private companies saving, you're aware, of course, under Federal Tax Code, and we've been trying to change that --

MR. WALTHER: Yes.

THE CHAIRMAN: -- those reserves that they would save are taxed each year. And that's one of the things that we've been trying to change to encourage that to occur.

I want you to go back to one thing that you said first, the reinstatement fees, which I understand the reinstatement is basically in case there's a second --

MR. WALTHER: That's correct.

THE CHAIRMAN: -- storm during that year. So if there is not -- assuming you do have a bad hurricane, if you had an Andrew, let's say, and reinsurer -- the insurance company pays a $20 million premium to their reinsurer and they -- and the reinsurer, the example that you gave, a 50

percent rate-on-line, would be having to pay out that sum, but then immediately get that same sum back.

So in a case like that, is it that there's almost no risk to the reinsurer, almost all profit?

MR. WALTHER: Well, I hesitate to say profit. I mean, basically it would be a wash in the event of a single occurrence, yes. But obviously, as you correctly point out, the purpose of the reinstatement premium is to reinstate the limit for the next event.

THE CHAIRMAN: A number of questions. I know last year, at the beginning of last year, there was about, let's say, 50, 55 billion of reinsurance capacity, maybe another 10 billion in alternatives, Cat bonds, things like that, and demand worldwide, maybe 125 billion.

Do you have any sense today what the capacity is of reinsurance and reinsurance-like items and worldwide demand?

MR. WALTHER: No, I don't have those numbers at my fingertips; but my sense of things is, it's greater. How much greater is the question. There is the ultimate question as to whether there's enough capacity out there, in any event, for the

next huge one that comes into Miami or Tampa.

THE CHAIRMAN: Could you try and get us those numbers, please?

MR. WALTHER: I shall do that, yes, sir.

THE CHAIRMAN: I had a friend that was in Bermuda when we passed this and said that there was wailing and gnashing of teeth when Florida passed this because the reinsurers located there were afraid that they were going to lose, you know, the gravy train.

Can you comment on that?

MR. WALTHER: Yes, there was great concern about that. But, as I mentioned, we had a situation where those fears did not materialize because it may well be that certain contracts went by the boards. In other words, the contracts that were in place that these reinsurers had derived a fairly significant income from, those contracts that went to the Cat Fund, obviously -- not obviously, but may have left the private sector's fold.

But what happened was that the companies which moved those coverages to the Cat Fund came back to Bermuda and other markets and said, okay, while we can't buy this contract this year because we're

being reinsured by the Cat Fund, but we want to provide -- you know, we want to buy additional coverage, either at greater limits or third, fourth, fifth event coverage, to provide for, again, a frequency of severity, which, again, is not being dealt with at the moment by the Cat Fund.

THE CHAIRMAN: So are you saying that -- what I think I hear you saying -- I want to make sure I hear this correctly -- is that a lot of what should have been the savings went into the purchase of additional reinsurance, either third, fourth, fifth, as opposed to standard first or second or greater amounts than had previously been done? Is that what you've told us?

MR. WALTHER: Yes, Senator, that's my understanding.

THE CHAIRMAN: Thank you. The reinsurers do not have any guarantee association, is that correct?

MR. WALTHER: That is correct.

THE CHAIRMAN: So if you had a really bad storm, could the reinsurers go bankrupt?

MR. WALTHER: Absolutely. There are pressures now applied by regulators with regard to, you know, collateral and those kinds of issues. But

basically you have admitted reinsurers that are subject to, again, the regulators; but also you have very significant pressures applied by the rating agencies to make sure, as best they can, you know, that companies --

THE CHAIRMAN: Those are the same rating agencies that were doing the subprime mortgage bonds, right?

MR. WALTHER: Well, I'm not sure that's the case. I mean, I don't know the mechanisms of the Standard and Poor's insurance operations, for example, or A.M. Best, and to the degree. I mean, presumably they look at assets as well as the operating procedures of the various companies.

But I think that, you know, it used to be that the reinsurance business was -- and this is maybe years and years ago already -- but it used to be that reinsurance contracts were written on the back of napkins after three-martini lunches. That's not the case anymore. I think it's fair to say --

THE CHAIRMAN: It was five-martini lunches.

MR. WALTHER: Well, maybe one and a half. But I think the point is that I think that the reinsurance -- private reinsurance community has demonstrated its proudness and its ability and

willingness to pay either as a result, for example, of 911, the 911 tragedy, as well as the Hurricane Katrina and Rita and Wilma losses that took place in '05.

I think the reinsurance record of performance, the private sector's record of performance, I wouldn't say it's necessarily in all cases exemplary, but I think it is a far better breed of cat than it used to be.

THE CHAIRMAN: The majority of the reinsurance industry is located outside the United States, correct?

MR. WALTHER: I think that's now fair to say. I mean, there's heavy money in Bermuda, as we talked about, and Europe.

THE CHAIRMAN: Is it true that reinsurers are allowed, the foreign reinsurers -- are able to meet offshore and engage in collusion, price fixing or other things, that if they were done in America, in American companies, would be considered a violation of United States law or state law, but can be done without antitrust violations because they're offshore companies?

MR. WALTHER: Well, I hesitate to comment on that, Mr. Chairman.

THE CHAIRMAN: That's what my script says.

MR. WALTHER: The point being is that, I mean, I've been in this business now, as I mentioned, about 45 years, and I'm not going to stand here again and tell you that things don't go on. They do go on.

I mean, who knows whether there are rebates out there and collusions, and there are issues having to do with the major insurance broking arms or insurance broking operations which have reinsurance subsidiaries and links between, you know, companies doing reinsurance deals. I am not personally familiar with any of the shenanigans that may or may not have gone on.

THE CHAIRMAN: I'm just saying, would they be legal since they're not done in this country? It would seem to me that -- at least my script says -- it would seem to me that they would be legal, because if they're not in this country, they can't be in violation of U.S. law.

MR. WALTHER: Well, that may be true. As I say, I'm not really in a position to comment on that. But to be honest about it, my feeling very strongly is that, as is the insurance business, the reinsurance business is one of utmost good faith.

As a for instance, for the most part when you have a reinsurance placement that is placed by a reinsurance broker among the reinsurance market, invariably the terms and conditions of that placement will be the same across the board. The reinsurance broker, you know, basically oftentimes cannot, because of its own reputation, afford to have non-concurrent terms across its markets.

THE CHAIRMAN: A couple of last questions. I need to turn it over shortly. The Cat Fund -- the TEACO, the so-called -- the extra Cat Fund is scheduled to lapse in another two years. We have been led to believe one of the reasons for the softening in the reinsurance market is the creation of the extra -- of the Cat Fund, the TEACO, which took $12 billion of capacity away.

What would the effect be if the $12 billion TEACO just went away overnight? Could the reinsurance market absorb that without a huge increase in prices?

MR. WALTHER: I would say it's probable. It's -- you know, again, the market, you know, ebbs and flows. Now, again, I would maintain, as I did earlier, that the Cat Fund, and as much limit is appropriate, should be continued, but that, in my

view, that limit should be as high as it can go and truly a market of last resort.

THE CHAIRMAN: Last question: The Legislature was -- has been led to believe that the reason that our insurance rates went so high in the 2006 time period was the substantial increase in the cost of reinsurance.

Do you agree that there was a very high cost of increase in reinsurance prior to this, and if so, what do you believe was causing that?

MR. WALTHER: Absolutely. I mean, there's no question. As I mentioned, this business is cyclical; and if the business suffers loss, as it did in '04 and '05, there's no question that, you know, the reinsurance pricing would go up.

The reinsurers are looking to get back the loss. Again, they're looking to get paid back the losses that they suffered. Once they have done that and they see times are good and they're faced with competition, the prices go down again.

And despite the protestations of the market to the contrary, oh, yes, we're going to be more responsible, again, it's like an accordion, it just goes back and forth and it continues on.

THE CHAIRMAN: Thank you.

Chairman Atwater, do you have any questions before I turn it over?

SENATOR ATWATER: Yes.

THE CHAIRMAN: Senator Posey, you will be next.

SENATOR ATWATER: Thank you, Mr. Walther. Is there an annual meeting held of the reinsurance offshore players?

MR. WALTHER: Well, yes and no. I am not aware of any formal meeting, but there is a large international meeting held in Monte Carlo every year, and Baden-Baden, for example, with regard to European players. And it's sort of a gathering of the clan. And brokers and markets go there, and they basically --

SENATOR ATWATER: Have you ever attended the meeting?

MR. WALTHER: No, unfortunately not. I never had the chance. I always had the thought that I would like to go once, but I've never been.

SENATOR ATWATER: A gathering of the clan. How about this, you mentioned that, very complimentary -- I think that's what you meant it to be, anyway -- that the Legislature a year ago was on the right path in expanding the Cat Fund,

and that yet it has its limitations.

So could you give us specifically what you might recommend -- if the effort that the Legislature undertook was to try to find a way to offer relief to the consumers of Florida by this exercise, understanding it was taking on a significant level of risk, but trying to balance that and the near-term challenges that the homeowners were facing, what more could we have done? Because, again, as you mentioned, how could we have anticipated that players would go off to find additional limits to buy? How else are we to try to work this process through, that relief could really make its way to the homeowner?

MR. WALTHER: That's really a very good question. And, again, as a Florida resident -- you know, and I live in Orlando -- I would like to think that my price -- you know, the pricing that I pay for insurance will go down.

But I think that unless and until there is a way in which to access markets, you know, beyond our borders and truly get us a spread of risk that we really don't have in our state, it's a tough nut to crack.

The problem that we have, in my view, with

regard to the Cat Fund, I think it's a necessary market to have. I think even though it's necessary from the standpoint of capacity, it doesn't provide, I'm afraid to say, the sort of relief that all of us would like to see. You know, there needs to be -- generally speaking, rates ought to be reasonable, adequate and not unfairly discriminatory.

The point of the matter is, we have an awful lot of risk in our state. Somebody has to pay the price. And what the Cat Fund, in my view, does, it provides an additional level of capacity, but it doesn't -- you know, it doesn't -- and I don't think it should, necessarily -- be pricing its product to the degree that exposes all of us to horrific assessments down the road.

Now, one of the things that I quite, you know, appreciate, and I don't know all the details, but I understand that our Chief Financial Officer has certain thoughts about the Cat Fund in terms of reducing coverage, and I think that's a plus.

Again, my view is that, to the degree that it can, the rating, the pricing structure of the Cat Fund, ought to be as sample as it can be. It needs to be perceived as being very secure money, you

know, by the insurers that they serve.

I think up to this point in time, maybe because of the volume of exposure it has, there's a perception that maybe when the losses come, the Cat Fund won't respond. And I think it's maybe a psychological thing.

But, you know, to say ultimately that there's a way in which to truly save our consumers, you know, a fair amount of money, that's not it. I think that what we can hope for and what I suggested earlier, I think the way in which to cope with a lot of this is, in some fashion or other, either give it to the reinsurers if we can't generate, you know, the tax savings, and I know Citizens and the Cat Fund can.

I think the Cat Fund is in a preferred situation where it's -- you know, it can do more for the consumer at less price because of its tax structure, because of the tax advantage it enjoys.

SENATOR ATWATER: Last question, Mr. Chairman.

THE CHAIRMAN: Go ahead.

SENATOR ATWATER: You mentioned earlier that the Cat Fund should look into the financial markets to spread the risk. Can you be more specific on products that exist today that we could be engaging

in to spread that risk?

MR. WALTHER: Well, one of the things -- again, I'm a traditional sort of reinsurance person. I grew up and I majored in insurance at the Wharton School of Penn, and I've been a reinsurance -- a traditional reinsurance person.

What I've been excited about is the fact that apparently -- and my understanding is that last year there was something on the order of 6 billion capital-market-related products out there that were sold that, you know, benefitted really the more sophisticated buyers.

And basically it's my understanding that the Cat Fund, for example, does have -- I mean, clearly it has access to the financial market by virtue of its bonding strategies. And I guess my feeling is that to the degree that we can, the private sector can, and the public sector as well, can somehow accumulate, give it to the reinsurers and have them pay it back when the losses happen, try to basically get us to a position, a more loss-leveled, a more even -- you know, I shouldn't say playing field, necessarily, but a more even climate where we don't have the swings, you know, the peaks and valleys of pricing variation that we

have today.

THE CHAIRMAN: Thank you, Mr. Walther.

Members, I'm going to call on Senator Posey, followed by Senator Bennett, followed by Senator Ring. We have about eight minutes. I have a bunch more questions, but I have no time.

Senator Posey, you're recognized, sir.

SENATOR POSEY: I have a series of questions, too, and I doubt if I get through them in eight minutes.

THE CHAIRMAN: Okay.

SENATOR POSEY: Mr. Walther, how many major reinsurance companies are there, do you know?

MR. WALTHER: I'd have to research that, Mr. Senator. There are a bunch, and I could access the facilities -- the Reinsurance Association of America probably to help out in finding that. But I will be glad to research that for you.

SENATOR POSEY: Can you swag it?

THE CHAIRMAN: Can you give us a ballpark of the majors?

MR. WALTHER: Of the majors? Well, I mean, you have fewer majors writing more of the business these days. I would say that of the truly major players, I would say, 20, 25.

SENATOR POSEY: How many of them are in the Cayman Islands? Do you have any idea?

MR. WALTHER: Not that many that I'm aware of. The one thing, Mr. Senator, I mean, that we might consider -- and I hesitate to throw his name out there -- but there's a name familiar to all of us in this room and to many throughout the country, is Warren Buffett.

And Mr. Buffet has made endroads in terms of his willingness to take over some of the subprime exposure. But he's got one of the major, you know, truly major, major reinsurance operations.

SENATOR POSEY: Okay. Thank you.

How do rates differ between the different insurance (sic) companies?

THE CHAIRMAN: Reinsurance companies?

SENATOR POSEY: Reinsurance companies.

MR. WALTHER: Well, basically I hesitate to say it's a consensus, but it ends up being that. What happens is that the --

SENATOR POSEY: That's really what I thought, I just wanted an affirmation from somebody who knows it and --

MR. WALTHER: Well, when I say "a consensus," I'm not really talking about it -- I mean, let's

put it this way, the closer any contract is to loss, the more expensive it's going to be.

And so you may have a situation where one market will say it's a payback of, you know, a 50 percent rate-on-line; somebody else might do it for 40.

SENATOR POSEY: It's just ironic, they all level out at the same rate, from what I understand. And, I mean, it was my understanding that when we passed Senate Bill 1A -- or House Bill 1A, whatever it was when we passed it, reinsurance rates worldwide dropped 15 percent. Now, that tells me -- do you recall anything like that?

MR. WALTHER: Well, I think -- at that time I think that the reinsurance rates were dropping. I don't know whether it was 15 percent or not. But, again, it was, you know, after 2006.

SENATOR POSEY: A Government Affairs guy for the reinsurance business here told me they dropped 15 percent worldwide. But you're the insurance major, I thought you would know that.

But with all due respect, you know, we've learned pretty much on this committee that guys that majored in insurance learn how companies make money, they don't really learn how to help Joe Blow

back home, and we're here to help Joe Blow.

MR. WALTHER: I understand.

SENATOR POSEY: It tells me if rates dropped or plummeted 15 percent when we passed one bill, it tells me that the rates really aren't based on losses, they're based on what the traffic will bear.

And this is a market, clearly, that many of us think has been exploited. And the questions we're asking you today, you know, aren't to -- meant to be disrespectful at all. I mean, this is fact-finding stuff. I mean, you know, we want to make sure that, to the best degree possible, that we make sure we don't allow the insurance versions of Enron and WorldCom to operate here.

And, you know, it really makes my cackles stand up when somebody starts talking about our exposure to assessments with our Cat Fund. I mean, it's like it would get paid some other way. You know, the only difference is here -- I mean, last year we had $3.7 billion of profit go out of this state, and we're going to hear the companies whine like crazy the first time they have to pay a nickel for another storm. And, you know, the excuse is, well, the Federal Tax Code that we all push up here

won't let us do that.

But do you think there's some way, if a major storm hit here, if we didn't have the Cat Fund -- if we had the Cat Fund, let's say --

THE CHAIRMAN: Senator Posey, can you move closer to the mike again?

SENATOR POSEY: Let's say we have a Cat Fund and the state has to come up -- we have to assess people $5 billion to pay back that loss. Do you think they wouldn't pay back $5 billion, plus 3.7 extra every year we don't have a storm?

I mean, this clearly assessing people for the exact amount of the storm in arrears beats the heck out of paying for it ten times in advance. I mean, is there something wrong with that theory that we missed when we passed that? I thought it was common sense, good judgment; if we could pay it, we should do it.

THE CHAIRMAN: Mr. Walther, do you understand the question, and can you respond?

MR. WALTHER: Well, I guess -- I think I understand the question. I mean, the market -- I hesitate to say it quite this way, but it is what it is. I mean, the point of the matter is, if the market is not allowed to function and get what they

perceive as an adequate price for the product, they won't be there, you know, they won't write the business.

And so the question is whether or not it's in everybody's best interest to perhaps, you know, if you will, do away with reinsurance and basically just insure ourselves and forget about the world and, you know, just do without. But -- because, again, it's sort of the situation where we're collecting the premiums of the many to pay the losses of the many.

And that's -- you know, the market is out there, and it functions. Whether or not it functions, you know, in anyone's best interest but its own is problematic, I understand that.

SENATOR POSEY: Yes.

MR. WALTHER: But to have it trickle down -- I mean, to have an expectation that -- you know, that they're in it for anything -- I mean, I understand what you're saying, I mean, they're not a non-profit -- the market is not a non-profit batch of companies, they're in it for profit.

And the question is -- and this is what we depend on the OIR for, is to make sure, as best we can, is that that profit is reasonable. I mean,

it's where we get to unreasonable profit that there is a problem in terms of the perception of the marketplace.

THE CHAIRMAN: Except OIR does not regulate the reinsures.

SENATOR POSEY: Exactly. Have you ever heard of any reinsurance companies going bust?

MR. WALTHER: Yes, there have been.

SENATOR POSEY: How many?

MR. WALTHER: Well, I mean, again, I would have to research that. But they do go bust. I mean, you know, you have situations where in London --

SENATOR POSEY: When is the last one you heard of?

MR. WALTHER: Sorry?

SENATOR POSEY: When is the last one you heard of?

MR. WALTHER: Well, not in for a while, but, I mean, as I say, in a way that's perhaps testimony to the fact that, for example, in the Katrina storms and the losses of '04 and '05, you know, that they were willing and able to pay their bills. Yes, they want some money back.

SENATOR POSEY: They were. You know, if this

wasn't a guaranteed winner, you know, Warren Buffett wouldn't be in it. That's pretty obvious.

And, you know, I mean, we don't mind them making a profit, and I would never -- I was brought up, you don't ever ask anybody how much money they make even if it's a matter of public record.

But, you know, we have executives coming through here from publicly-traded companies, and members say, out of curiosity, what's your compensation, and, for whatever reason, they're ashamed to tell it, you know. That goes back, to me, a flashback of the other companies that we've had being exploited.

I mean, I think I'm a fairly reasonable person, and I think most of the people back in my district are fairly reasonable, but I think they've been -- I think the people back home think they have been shafted pretty badly. And I tend to sympathize with them on that, and nothing you have explained tells me any different.

And it particularly still bothers me that you don't understand the concept as I do, or I don't understand your concept correctly, that if we have the capacity to offer this reinsurance for our Cat Fund like we did and the public would only pay

above their estimated rate of coverage if there was a loss, and if there was no loss they wouldn't pay extra, as opposed to going to the private market, which is unwilling to insure hundreds of thousands of homes in our state, you know -- you know Citizens is the largest insurance company in our state now. I mean, if the --

THE CHAIRMAN: Senator Posey, we're about to need to move on.

SENATOR POSEY: -- voluntary market was willing to belly up to the bar even a little bit, we wouldn't be in any of these situations. But they're not. They want to cancel everybody that's a risk and overcharge everybody that's not.

And we just don't see any evidence -- that's why you're here, we want to make some sense of this stuff. We want to try and understand how what seems to be going on here is logical and fair. But that's not it. And a lot of the questions I asked you you're going to research for me, you know. And I'd really like to have the answers when you have them, but that's going to cause more questions and further reflection on this.

MR. WALTHER: Yes.

SENATOR POSEY: Thank you, Mr. Chairman.

That's enough.

THE CHAIRMAN: Thank you. We really are at -- need to move on.

Senator Bennett, I will take one question if you have a quick one.

SENATOR BENNETT: I do have a question; but, again, Mr. Chairman, had we started on time I think we would have had time for the questions.

You had expressed concern. You said that the insurance companies were concerned that -- about the Cat Fund, so, consequently, they were concerned that we were going to have the ability to pay into the Cat Fund.

You're the first person who said that. We've had three or four insurance companies up here, and nobody has brought that up before, as the reason that they went out and bought more reinsurance is they thought that the financial backing of the state of Florida wasn't good enough.

Are the reinsurance companies so big that they've got more financial capacity than the state of Florida does?

MR. WALTHER: Oh, no, no, I wouldn't say that, Senator. And basically I think, you know, again, it's a matter of perception, and I think -- as a

practical matter, I think that there is a perception out there that the Cat Fund can pay within -- obviously within its abilities.

The question is whether or not it can handle it and whether or not an insurance company's exposure well exceeds the coverage provided by the Cat Fund versus, you know, in terms of second, third and fourth events or limits higher than what's available.

SENATOR BENNETT: I guess what I'm saying is, did you have any insurance companies actually tell you that was the reason that they bought more?

MR. WALTHER: No, I mean, that's the sense in some of the press that I read as well.

SENATOR BENNETT: That was the assumption.

THE CHAIRMAN: Okay. Thank you, sir.

And, Members, I apologize. I know that there's a lot of you that have a lot more questions, but we have two more presenters and we only have two hours and twelve minutes left; and if we're going to give any time to them, we have to move on now.

Senator Fasano.

SENATOR FASANO: Thank you, Mr. Chairman. I was just wondering if maybe when we do have

presenters in the future you might want to reach out to the members and ask them if they have questions before you or the other chair indulge in your questions, you know.

THE CHAIRMAN: Senator, we have a script of questions that we're supposed to ask.

SENATOR FASANO: That's great. I don't have that script, Senator.

THE CHAIRMAN: Okay.

SENATOR FASANO: Thank you.

THE CHAIRMAN: Sir, Mr. Walther, thank you for being here today, sir. We appreciate it. I understand you'll be sticking around until the end?

MR. WALTHER: Yes, Mr. Chairman.

THE CHAIRMAN: Thank you.

MR. WALTHER: Thank you.

THE CHAIRMAN: At this point in time, we have invited representatives of the Florida Commission on Hurricane Loss Projection Methodology to be here today. They will have until approximately 10:30 and then we will have to wrap up with our last group of speakers, which will be from AIR. And the meeting must end at 11:45. So, again, we're going to be on a very tight time schedule as we proceed.

We have invited representatives from the

Florida Hurricane Commission -- Florida Commission on Hurricane Loss Projection Methodology to be here today. Two of the Commission members are here, including their Chairman, as well as three members of the Professional Team that have been hired by the Commission. They are Randy Dumm -- Dr. Randy Dumm, Ph.D., Chairman of the Commission. Dr. Dumm, thank you.

Jack Nicholson, Ph.D., member of the Commission, and Senior Officer of the Florida, Hurricane Catastrophe Fund. Dr. Nicholson, thank you.

Mark Johnson, Ph-- Dr. Mark Johnson, a member of the Professional Team. Dr. Johnson, thank you.

Martin Simons, a member of the Professional Team; and Charles Watson, Jr., a member of the Professional Team.

Members, tab 3 of the packet contains a copy of the statute creating the commission and background information about the panel members. Tab 4 contains a copy of their Power Point presentation.

Again, Members, we are taking all testimony under oath. Are all of you prepared to testify under oath?

Thank you. Please raise your right hand.

(Witnesses sworn en masse.)

THE CHAIRMAN: I'm sorry, I need to ask you individually.

Dr. Dumm?

DR. DUMM: I do.

THE CHAIRMAN: Dr. Nicholson?

DR. NICHOLSON: I do.

THE CHAIRMAN: Dr. Johnson?

DR. JOHNSON: I do.

THE CHAIRMAN: Mr. Simons?

MR. SIMONS: I do.

THE CHAIRMAN: Please note for the record that each witness has answered in the affirmative and is now testifying under oath. Again, we have approximately 55 minutes for this presentation.

Dr. Dumm or Mr. (sic) Nicholson, which of you will be making the presentation?

DR. DUMM: Part of it, yes, sir.

THE CHAIRMAN: Sir, you're recognized. Again, thank you for being here today, sir.

DR. DUMM: Thank you, Chairman Gellar and Committee Members. We appreciate the opportunity to appear before your committee today to discuss hurricane loss modeling. This topic is certainly

currently one of the primary areas of debate within this area of ratemaking in the state of Florida. We're hopeful that the information that we provide today will be useful to you and your committee as you continue to work into the future.

Before I begin the presentation, I would like to provide a little more information regarding the credentials of the three Professional Team members who are here today. Our Professional Team is composed of individuals with expertise in one or more of the disciplines related to hurricane modeling. That would be meteorology, statistics, actuarial science, engineering and computer science.

When I joined the Commission in 2001, I was struck by the level of detail and structure that was in place at that point in time, and I also was very impressed with the level of talent that we had been able to attract to our Professional Team, and that continues to be the case.

Our Professional Team, as Mr. Chairman Gellar mentioned, represents us and conducts our audits onsite. Now, they also work with the Commission to help raise the bar as it relates to evaluating hurricane loss models.

To the right of Dr. Nicholson is Dr. Mark Johnson. Dr. Johnson is the statistician on the Professional Team and is the team leader and has been involved with the Commission since its inception in 1995. Mark is a professor and former Chair of Statistics at the University of Central Florida. He has worked at Los Alamos National Laboratory. He has been a professor at Georgia Institute of Technology. He is a Fellow of the American Statistical Association, elected member of the International Statistical Institute, a Chartered Statistician with the Royal Statistical Society, and his research has appeared in a wide range of journals, quantitative statistics and insurance.

To Mark's right is Martin Simons. Marty has been the lead actuary on the Professional Team since 1997. He is an Associate of the Casualty Actuarial Society and a member of the Academy of Actuaries. He provides actuarial consulting, assistance to regulators, legislatures and state agencies in several states. And from this perspective, he provides a regulatory bent that is helpful to the Commission as it does its business.

Marty has been the P&C actuary for the Hawaii

Insurance Division for the past 21 years. For 12 years, Marty was the Deputy Director and Chief Actuary for the South Carolina Department of Insurance. He has also chaired several committees of the National Association of Insurance Commissioners.

And finally, Chuck Watson is on the Professional Team. Chuck is an engineer who specializes in numerical modeling, including the simulation of extreme events. Of course, hurricanes would fit well within that category.

Chuck is a specialist in the application of satellite sensing and computer models to natural and human hazards. He provides hurricane and mitigation planning services to both public and private sector clients.

I thought it would be helpful just to take a minute, Mr. Chair, just to give your committee some background on that. So what we would like to do today would be to cover some areas that I think will be of help and obviously answer any questions that I believe your --

THE CHAIRMAN: Dr. Dumm, do you know how long your Power Point is?

DR. DUMM: It is about 30 slides. I figure

about a half an hour to get through that.

THE CHAIRMAN: Again, we have a total of about 51 minutes, and I know the members will want to ask a lot of questions, so --

DR. DUMM: Okay. So we'll proceed with expedience.

As far as moving to -- the first part of the presentation is to give you a brief overview of the Florida Hurricane Commission. I think it may be helpful just to talk a little bit about the history of modeling and why we have hurricane modeling today.

If you go back to Hurricane Andrew and the losses that occurred at that point in time, it became apparent that traditional actuarial techniques of using past loss to determine future rate was not going to work, and so this hurricane modeling came into wide adoption and continues to be the approach of choice when making your -- calculating rate for hurricane or catastrophic types of events.

The problems that you have in this is that it is based in science and a layman has difficulty in getting his or her arms around the process and understanding what's going on. The other problem

that you have is that the model is built with -- inside of a black box, and it is difficult for individuals to see inside.

And so in the effort to get a better understanding of the modeling process and to get a better understanding of what fits inside of this black box, the Legislature in 1995 created the Florida Commission on Hurricane Loss Projection Methodology and established the sense that there is a need for expert evaluation of computers models.

Let me skip over to this slide in the sense of -- for the sense of time. The composition of the Commission, it was established in 1995, brings individuals from various backgrounds onto the Commission, and I think it is something that is valued.

So we have actuaries that are playing an important role on the Commission. We have experts from the State University System that are appointed to the Commission; but you also have the Insurance Consumer Advocate, the Executive Director of Citizens, the Senior Florida Hurricane Catastrophe Fund Officer, and the Director of the Division of Emergency Management on this particular Commission.

So it provides a different sense for how we do

business than a straight technical type of commission. This slide, I think, violates all the pedagogical rules relating to teaching as it's very difficult to see. You have the information in front of you, and we put it together simply to give you a sense for the history of the Commission. There's some names on there that members of your committee would recognize.

We also provide the information as a way to show how we plan for the continuity of our audit team. It's not just a matter to have technical expertise on this audit team, it's also a matter to have auditing expertise.

And as you see on the slides, each of these Professional Team members has a backup. And so in the event that one of the Professional Team members cannot go on an audit, we have a trained individual in both the technical side and in the auditing side, as it relates to hurricane modeling, where an experienced individual would go onsite.

The Commission is formed on principles. And we include this slide just to give you a sense for some of them. If you go to page 15 of our Report of Activities -- and each of you should have information based on Report of Activities. We also

provide you with the report that we provided to the House of Representatives in November for additional information purposes to your committee.

But these are some of the principles that serve as our guiding light as a Commission and were used to form the standards that we evaluate a hurricane computer model on. The first one is: All models or methods must be theoretically sound. It is not simply enough to say, I have a good idea, I think it's going to be an improvement, it's going to be an innovation. The innovation or improvement or idea must be supported by the science. It must have firm grounding in the literature.

The models or methods shall not be biased or overstate or understate results. One of the first things I learned when I went on the Commission, which I found of interest, is that if you have a model that perfectly explains a prior event, you know, that may be a problem; because if you can calibrate the model to perfectly predict or perfectly estimate a prior event, you are likely introducing bias in that model, and that's going to impact on its ability to predict models -- or events, rather, that are not precisely like the one that you are working with.

Finally, the outputs or methods shall be reasonable, meaning that they do not provide excessive loss cost. The foundation and the judgments that go into developing these methods and models shall be supportable.

Quickly, an overview of our cycle, we start in June where we look back to the prior model year and make decisions about how we can improve our process. This runs through with Commission meetings in September to adopt new standards. We produce this Report of Activities then in November.

Moving forward then to the next calendar year, we start in February with model submissions, we meet as a Commission in March, and at that point in time make decisions to send our audit team to conduct onsite audits. We will meet then with the modelers themselves in Tallahassee in May. That is a typical year for us.

THE CHAIRMAN: You have approximately 45 minutes left in the entire --

DR. DUMM: Thank you. I've already talked about the expertise needed in the composition of the Professional Team, and you will get to hear some of that in just a minute. So let me move through this slide.

Our standards that we operate under are 36 standards across 6 categories. The thing that your committee needs to understand is not -- as to how we work is that the modeler must pass all 36 standards. There is not an 80 percent pass rate that is acceptable. If the model fails one standard, the model does not pass.

Within each -- some of the standards are disclosures of additional information that the modeler must provide. There are forms related to statistics, to actuarial and engineering or vulnerability that the modeler must produce, and these are a substantial amount of information and data provided. And then there is additional information that the modeler must provide to the audit team when they are onsite.

So I think that, just to finish my part of the presentation, I would back right at the conclusion. But just to summarize, just to give you a sense for the activity that we're involved with, it is an active commission, it meets on average about ten times per year. These are day-long meetings when we meet.

Moving down to the fourth goal of point is one where I think we provide value to the state of

Florida in our operations. The first is that we are an independent commission. When we showed the composition of the Commission, I think that one thing of value is that each person brings some bias to the process based on their experience, their employer or whatever. But I think through the process and the Commission's activities provide independence.

The second thing that we do provide is this rigorous public disclosure. We operate in the Sunshine with the exception of being able to move into closed session following the 2005 legislation to look at trade secret type of data. And that's been very helpful.

Everything else we do, with the exception of the trade secret information and the onsite audits, are out in the public. We generate a lot of public documents and information, and that is fully available.

So at this time I would like to turn, with your permission, Mr. Chair, turn the presentation over to Dr. Johnson to talk about hurricane loss models.

THE CHAIRMAN: Dr. Johnson, thank you for being here, sir. You're recognized.

DR. JOHNSON: Thank you, Senator Gellar and Committee Members. I'll try to move right along.

This first slide just gives a schematic of how the hurricane models work. You've been hearing about them a lot in the last few weeks. This gives the general structure.

There's a historical record from 1851 on. Modelers then construct their own stormset for purposes of extrapolating things out into the future; what do they think the storms are going to look like down the road. For individual storms, they produce a wind field; in other words, what are the winds throughout the state versus the structures that are there.

As winds go over land, the winds weaken, so we have a friction -- they'll have a friction model, in which case you'll need to know what the landuse land cover is in the state of Florida. Once winds hit a structure, how much damage do they inflict. Once the damage is taken care of from an engineering standpoint, what are the actual insured losses.

So this is the general schematic of what all of the models are doing internally. And in a sense we've raised the hood to give you a sense of what

they're like so it's not a pure black box. And, let's see, to forward this -- there we go.

So in building a model, these are some of the areas that one has to consider: What are the input databases that drive the model; wind field I mentioned just a second ago; the friction, how much damage is inflicted. You know, if there's a 100-mile-an-hour wind, how much damage does that cause. If it goes to 110, it's more than 10 percent additional damage. So that's tied to the damage functions.

Frequency, which we've also been hearing about a little bit this morning, a lot of decisions to be made by the development of models. Now, there's been mention of the audit process where our pro team goes in and --

THE CHAIRMAN: Guys, I apologize. I've had a number of members coming up to me telling me the importance of questions here. I'm going to need to ask you to move this along as quickly as you can. We have until 10:30 to finish with you, and we need at least 20 minutes of questions, and preferably 25.

DR. JOHNSON: I wonder if I propose to just kind of give you a sense of what the slides are

like and then go right to the questions --

THE CHAIRMAN: Great.

DR. JOHNSON: -- would that be --

THE CHAIRMAN: Great.

DR. JOHNSON: In universities when the students are eager to ask questions, I'm responsive, so --

THE CHAIRMAN: If you can try and wrap up your presentation in the next 10 to 15 minutes.

DR. JOHNSON: Okay. In a sense, what we have done is, we have a process whereby we can go through and assess the models. We have our own calculations in advance, and when we go onsite, we can go ahead and assess how the modelers are doing with respect to what we would expect versus just looking at their submissions and asking questions where they have the, in a sense, upper hand as to what's being presented.

So, again, I mentioned input databases. Maybe the key point to make here is, why do models differ? That's been a common theme.

THE CHAIRMAN: A very important issue.

DR. JOHNSON: You know, you have one watch, you know what time it is; you have two watches, you're never sure. We have five models that are

being considered, so there's a number of aspects. Meteorology plays a role. That's what our research has shown. There's other aspects that can drive the differences in models.

So we can't explain precisely, but we don't expect the models to agree completely. In fact, we'd be surprised if they all did. But we can get at what the variation is. So that's really the technical side that our Professional Team has been involved in, what is the variability, and how do we go about capturing it and understanding it?

Maybe I will just skip through these slides. You have them in front of you. We have also a written report that indicates how we assess it.

Basically, the methodology that we developed was about -- we went out and looked at 1,000 combinations of models, and this is the band. The center line is what we might expect, minimum and maximum. And then as we -- here is the five companies that have been reviewed by the Commission and color-coded. Maybe I will just give you this indication: AIR is green, black is ARA, and so forth, Public Model in red.

THE CHAIRMAN: Can you go back one slide, please?

DR. JOHNSON: Sorry?

THE CHAIRMAN: I don't want to do this, but can you go back one slide?

DR. JOHNSON: Sure.

THE CHAIRMAN: Can you explain what the along-the-side axis, the zero through 16, what is that?

DR. JOHNSON: Okay, that's loss cost per 1,000 for wood frame structures. And along the X axis are the counties ordered from lowest risk to highest risk on the right. So that's why the center curve goes up in an increasing fashion. And then depending on the sizes of the counties, the band on minimum to maximum can vary.

Here is the -- we have a color-coded scheme, so when you're looking at these plots you can assess what the loss cost per thousands are.

So let me just go to one. Here you see all of the results basically at the county level. And the points that are red, say above -- sort of in the low to moderate risk correspond -- those happen to correspond to the Public Model. You tend to see how things fall.

Occasionally you see points below or higher. Those are points that are interesting from the

standpoint of the audit. Let's look at that particular county. Why is that one so low compared to what we might expect?

So this gives you a sense, perhaps, of what the audit process is like. We have a lot of material to look at. We try to focus in on those counties that might represent potential issues.

And then what we have in these series applies. Here's just the results for the final version of the Florida Public Model, some at the low end, especially at the low-risk areas. You see those are above that max, at the higher end, maybe around towards the middle. Compare that to -- here is with AIR, which you will be hearing from later. They're in the green. They tend to be pretty well within the bounds. That's a company that's been around now for quite a while. Florida Public Model just came into being this last year for purposes of being reviewed by the Commission.

There is another one, ARA, which went through quite a bit of revisions from the previous year's model. So you can see, they bounce around a bit.

THE CHAIRMAN: Excuse me, sir. By the way, Members, you have only a black and white copy in front of you, so you can't follow this. We just

discovered this, and we will make color copies available to you.

I apologize, sir. Please continue.

DR. JOHNSON: Sure. Likewise, here is EQE in gold. Again, it's pretty much, if you're looking at the screen, anyway, tied to the -- around the midpoint. RMS, the blue, again, pretty well within the bounds.

Here is the -- red being the Public Model -- and if you get the hard copy, you will be able to compare this -- versus the other four private models. You can kind of see where they -- it's not consistent across all the counties. So it's quite interesting to go through this and probe for purposes of auditing.

If you prefer to look at maps rather than little names at the bottom -- here you can see a graphic -- or a spacial representation. Of course, as you go farther south, the rates are higher in the southern part of the state than -- the loss costs are higher in the southern part than -- so this helps give a perspective.

And then another thing we've done -- again, this can help you wade through these mountains of data. This is color-coded. Red means that for

that particular county it was highest -- higher than the largest we saw across our 1,000 combinations of models, and then the blue is below the minimum.

So, again, this can give you a sense of how things are distributed space -- I'm sure you're just looking at your own particular county. This gives you a sense of kind of probing further.

Another thing we found quite useful is, if you take the top five for an individual model, what's the top five loss costs, what are the bottom five, take that ratio, how does that stack up, here you see the -- for the most part, the private models fall within our range. The Public Model happened to have that value being rather smaller.

THE CHAIRMAN: Could you explain what that means, please?

DR. JOHNSON: In a sense, the low-risk counties' values are rather higher compared to the other models, and the high-risks are a bit lower. So, in a sense, it's -- the lower risks are paying what appears to be higher relative to the other modeling.

Chuck, go ahead.

MR. WATSON: Mr. Chairman.

THE CHAIRMAN: Yes, Mr. Watson.

MR. WATSON: Thank you. A simpler way to think of that is, the greater that ratio is, if you believe that ratio, then the more you're subsidize-- the low-risk areas are subsidizing the high-risk areas.

So if that number is very small, that means the northern part of the state is effectively subsidizing the southern part. If it's very high, then you're spreading the risk around more. So another way of thinking of it, the higher that number the more you're spreading the risk unevenly.

So that's almost, in effect -- you would expect the rates, like with ARA, which is very high at, what, 30, 35 -- you would expect the loss costs to be 30-something times higher than say Miami, than say Bradford County.

THE CHAIRMAN: Thank you.

DR. JOHNSON: Okay. So almost a wrap-up here, the models vary because of the decisions made in developing the models. And our job is to audit them and see if those decisions make sense, as well as looking at a lot of these calculations to probe in on those areas that appear of particular interest.

As Randy indicated, end of February we get the new submissions for the next wave of models. Our audit process will kick in full gear in March. We'll proceed to be going onsite. And then subsequently towards the summer, the Commission will meet to assess acceptability of the current versions, the latest versions of the model.

This is just indicating -- one thing here is that this whole process of auditing, the models change over the core site. This is what happened last year, indicating the -- that the solid points were the -- let's see, the initial -- again, I should look at the -- the 2.0 is the solid -- well --

DR. DUMM: You moved from way down to the --

THE CHAIRMAN: I'm sorry, Dr. Dumm, can you --

DR. JOHNSON: I guess one thing to focus on, if you look at any particular county where there's a spread, that means, from the initial submission to the final version after subsequent revisions, it had managed to change quite a bit.

So that indicates that the models are influx during the course of the audits. So I actually -- this was intended to -- TEACO questions, but it doesn't look like --

THE CHAIRMAN: That's -- actually, this slide is a very important one, if you can elaborate on that a little.

DR. JOHNSON: Okay.

THE CHAIRMAN: This is your last slide, I believe.

DR. JOHNSON: Right. And, in particular --

THE CHAIRMAN: Could you elaborate on these issues?

DR. JOHNSON: Sure, sure. And I'm sure my colleagues can chime in as well. Demand surge was just added this last year as part of the standards review process. So demand surge is included.

THE CHAIRMAN: I'm not sure all of the members know what demand surge is.

DR. JOHNSON: In the event that there's a very large storm and it puts a premium on materials for rebuilding, then prices can spike up a bit relative to that. So it really kicks in relative to the very large events.

That's now been studied further, so the modelers have put in aspects to try to capture that additional cost. But it's really related to the larger events.

MR. SIMONS: Mark, if I could just --

DR. JOHNSON: Go ahead, Marty.

MR. SIMONS: -- add that demand surge is just -- if you go back to Ecomonics 101, it's just the law of supply and demand. And when you have a major event, you just don't have enough adjusters in the state; they have to come from elsewhere; you can't put them up close to the event because the hotels may be destroyed. So it's really a supply and demand issue, that it costs more after a major event.

THE CHAIRMAN: You missed it? I'll make you the first question when we're done. Go ahead, commercial.

DR. JOHNSON: Then in terms of commercial residential, the primary scope of the Commission has been on residential. So that may be, at a future date, incorporated. That's another area for further consideration. These are really future investigation areas, rather than something we're talking about that's within it right now.

Climate models you hear about a lot in the media, and the study that we did is to try to assess existing models. A third of our results were related to climate models. Maybe risk loadings I'll will defer to my actuary insurance

expert.

Randy, do you want to talk about that?

DR. DUMM: Just as far as risk loadings are concerned, I think that is a major issue that's in front of your committee. And I think that one of the things we would like to leave your group with is the distinction between modeled loss costs and the risk load, because this risk load is something that sort of captures all the expenses in this process. Modeled loss costs would be one of those.

Just to go back to that commercial residential, because it is -- the important part of 2004-2005, we have looked at commercial residential and creating standards for that part of the modeling process. And prior to that point in time, there was insufficient data on hand to do that. That's something we're going back and revisiting because of the 2004-2005 hurricane seasons.

DR. JOHNSON: As always, we're interested in what committees have to suggest for improving the process. The Commission, it's an open process. The committee meetings, when they go through revisions to the process, anyone is available to come in and offer their two cents worth.

The final slide was just the contact

information. And I think at that point if we could return to the questions if you'd like to.

THE CHAIRMAN: Great. We have about a half an hour for questions. A couple, two quick ones: Number one, to whoever this goes to, what is your opinion of the scientific basis for short-term models that assume Florida is currently in an active hurricane cycle, and have you looked at the recent NOAH report which appears to completely contradict that?

MR. SIMONS: I'd be happy to try and respond to that in less than a half an hour. When you're looking at short and long-term models, the Professional Team last year reviewed the RMS, what they called their medium-term model, which is really a look at five years into the future. So I will use that as an example of the short-term --

THE CHAIRMAN: Well, actually, that was my second question. So you can answer both of my questions right now.

MR. SIMONS: I'd be happy to. I hope I can do it appropriately.

The Professional Team found that the -- some of the methods used by RMS, we were concerned that there may have been some biases introduced into the

medium-term model. We communicated that to RMS on our audit exit interview and told RMS at the time that they had options and their options were to either withdraw the medium-term model and re-supply us with the long-term model, or they could go in front of the Commission and state their case in opposition to what the Pro Team found onsite. RMS decided at the time to resubmit their long-term model.

So as far as the Florida Commission goes -- I think this is an extremely important point -- the Florida Commission was never really presented with a short or medium-term model because RMS did decide to withdraw that model and submit the long-term model to the Commission. We do not know this year whether they will be re-submitting their medium-term model or not. But our job is to determine that the science is appropriate, and our job is to determine that there are no biases in the process.

I am not totally familiar with the NOAH project, but I think that you can read intense arguments by people who are positive that either side is correct. And I think that is why the role of the Commission is so important, because we base

everything on the scientific process underlying every question we ask them, every answer that they give us.

THE CHAIRMAN: So are you saying -- I apologize. So are you saying that the Commission has not looked at the validity of short-term models, or that you -- or are you saying that you have looked at and prefer the longer-term models?

MR. SIMONS: The Commission has seen the report of the Professional Team. Each time we complete an audit, we report to the Commission in a Professional Team Report. That report is fairly specific as to what we found and why we determined that we did not believe that we could find the RMS short-term or medium-term model acceptable.

I don't know that the Commission has done any detailed research specifically into short-term models, but there's a wealth of information in our Professional Team reports, and I'm sure that they all took them into consideration when we submitted it.

However, once it was submitted, RMS did withdraw that model. So the Commission really didn't have a formal presentation directly to the Commission on the short or medium-term models.

THE CHAIRMAN: Dr. Dumm, you wanted to comment?

DR. DUMM: Just to add to Marty's comments, last August we did have a presentation to the Commission on this issue of global warming related to climate change related to impact on catastrophic events, and as Marty indicated, the science is very divided in this area.

Dr. Hugh Willoughby from Florida International led that discussion. He's a Commission member, well-respected scientist in the area. So it was a very interesting session in looking at both sides of this debate. And it is a debate. It is a contentious debate.

We, as a Commission, have not taken a position, and I think it is incumbent upon the modeler to bring the models in front of the Commission to support the models that they're using. That is their responsibility in this particular process.

If we as a Commission felt that it was a superior approach to use short-term models, then we would require that as part of our standards. At this point in time, we do not.

THE CHAIRMAN: Because this is such a key

issue here, the issue of short versus long-term, I'm trying to pin down a clear answer. So the Florida Commission on Hurricane Loss Projection Methodology's position today is that you have approved only the long-term models and you have not approved any of the short-term models, that you believe that they have not yet carried the burden of proof? Is that what you're saying?

DR. DUMM: The modelers have not presented a short-term model to our Commission. I mean, that is a fact at this point.

MR. SIMONS: If I could take that one step further and say that the Commission has not disapproved any short-term models.

THE CHAIRMAN: Okay. One last question that the -- I recall in a couple of your -- in different approved models I saw one example where there was an over 2,000 percent difference in the result in the two models on one county, wood frame, for example. Can both models be accurate while showing differences of such great percentages?

DR. JOHNSON: Well, there's certainly a lot of numbers to look at. And you can find some of those particular, what appear to be, anomalies. But as I was going through the choices that were made for

wind fields or friction or so forth, you have one wind field that's highly -- say highly spread out; you have others that are rather more compact.

On any given event, overall the losses may look pretty good. It may look good across the whole battery, the whole full ensemble of different events. What happens, though, when you're trying to, you know, aggregate that, come up with a comprehensive assessment of the average annual loss cost, you can get some of those anomalies. And sometimes when you're doing those comparisons you may be looking at the minimum zip code in a county versus the maximum. So you have to be careful in terms of doing it. Obviously, those are ones we pursue and try to -- try to investigate.

But, in general, it's a little more complicated than just picking out those isolated ones. And obviously we're interested in those, but that's not necessarily a pure indictment of the model as a whole.

THE CHAIRMAN: Dr. Dumm.

DR. DUMM: I'll just add to that, also when you're looking at some of these changes that were -- there have been some circumstances, particularly with the Florida Public Model, where

we went back and looked at version 1.5 which was in place in 2006. They submitted a first version in 2007, which is version 2.0.

And so you look at -- you may have gathered, in our quick motion through that one slide, looking at the impact of the audit process and what it does to loss costs because it's improving the output of the Public Model, you can see that impact. And then if you go back a year, you're going to capture whatever that model was doing at that point in time compared to this year.

So there are -- that's one exception, I think, to your question. If a model changed loss costs 2,000 percent year to year to year, then that would be questionable.

THE CHAIRMAN: Thank you.

Chairman Atwater, do you have any questions?

SENATOR ATWATER: I would defer to the members, Mr. Chairman.

THE CHAIRMAN: Chairman Posey followed, I saw, by Senator Deutch, followed by Senator Alexander.

Chairman Posey, you are recognized, sir.

SENATOR POSEY: Thank you, Mr. Chairman. And I would like to request, if any of the members want them, that we could get color copies of those loss

ratio -- or the loss charts.

THE CHAIRMAN: Yes, we will have those provided to you.

SENATOR POSEY: Thank you. A fellow by the name of Gillie has been predicting storm pattern for a couple of years. He's been 100 percent more on target than you guys and the rest of the industry. I would like to hear from each one of you what your opinion of Gillie's prognostications are.

THE CHAIRMAN: Or from any of you.

MR. SIMONS: I think when you're looking at any individual prognostications over a short period of time -- and by "short period of time," I mean less than 1,000 years -- you can have vast differences in those projections.

SENATOR POSEY: Well, we know that. The insurance companies are using five years. They don't have any problem with that. You use thousands, they use five. This guy has been 100 percent two in a row. Everybody else has been 100 percent wrong.

MR. SIMONS: Well, they don't use five years in any modeling process that has been found acceptable by the Commission.

THE CHAIRMAN: Did anyone else wish to respond to --

SENATOR POSEY: It talks about Gillie. I mean, he's -- you know, I'd like to hear from y'all, he's talking about atmospheric wind patterns that, heretofore, I think, involve a little bit more science than just historical trashing of the landscape by storms. And it would seem like it would be a little bit credible.

THE CHAIRMAN: Mr. Watson, do you wish to respond?

MR. WATSON: Yes, thank you. I assume you're referring to the estimates of storm activity and the number of storms in a particular season.

SENATOR POSEY: Locations, yes.

MR. WATSON: And, you know, that's an area that I've done quite a bit of research in. In fact, I'm one of the peer-review editors for the Intergovernmental Panel on Climate Change. I have read the NOAH report.

And just to briefly comment on that, you know, in any given year you get literally hundreds of papers written on the field of climate change and hurricane impacts. And having read virtually all of them, I would suspect, even some that are pretty

far into the tinfoil hat realm, it's -- you will find there's a broad consensus in the middle. There's a fringe on either side.

The NOAH report that you have been referencing, you know, it's reputable folks, but they're not the mainstream of climate science. The gentleman that you referred to -- or the team that you referred to --

SENATOR POSEY: Mostly senators aren't really considered mainstream by the papers and all back home, but, you know, it's just a matter of perspective.

MR. WATSON: Sure. Yes, seasonal storm activity, there's a number of research groups. Getting it right one or two years in a row, or even five years in a row, doesn't impress me very much. I could point to the statistics that Dr. Johnson and I have that are better than the group that you referred to.

I still don't think they're very good in the sense that -- at one hearing I was asked at, someone asked, well, how do you know if you're right? I said, well, adjourn for 200 years and we will let you know. What we're talking about are long-term trends.

The other problem is, especially with the modeling we're referring to here, is that the history may not be a good guide into the future. If climate is, in fact, changing, then whether it's human or not -- we'll leave that argument aside -- that with changes in climate we have observed historically, then these long-term models are based on the assumption that the future will be like the past 100 years or so.

Well, we know even the past 1,000 years hasn't been like the last 100 years. So the goal is, and, again, from a standpoint of modeling, is all models are bad, okay? Let's be -- and I'm a modeler. That's what I do.

I've written literally thousands of computer models. They're all bad. You can find some flaw in every single one of them. But the question is, are they useful; and by that, is it producing a useful estimate for the numbers you need to make decisions on?

So that raises a very important question for this committee in that when you talk about long-term/short-term -- when you talk about 1,000-year models, realistically we're not trying to predict 1,000 years, what we're trying to do is

figure out what the probabilities are like if, for the next few years, even shorter or long term, the argument is a little bit misleading, because, obviously, we can't predict 1,000 years of climate with any great accuracy in terms of hurricane landfalls, but what we can do is come up with the average behavior of these storms.

I don't get too excited if one group or another gets -- nails a particular storm or a particular couple of years. Nature has a way of throwing us curves. But what we can do fairly accurately is predict the long-term behavior. And we can even do a pretty decent job on the behavior for a couple of years. The problem is the uncertainty.

And that's where you guys come in -- where the insurance folks come in, look at the modeling and go off in directions that maybe the modelers wouldn't be too -- speaking as a climate scientist doing modeling, would not be terribly happy with.

THE CHAIRMAN: Chairman Posey.

SENATOR POSEY: How often, because we're going -- hopefully we're undergoing a pretty rapid series of mitigations throughout the state on different

levels. How often do you update your information as to the hardness, the increasing hardness of this state?

MR. WATSON: Most -- and I think I can answer that. You know, most modelers do that on an on-going basis. I know that our research team, anyway, we actually update our vegetation patterns, for instance, every 30 days; because if you think about the land clearing and even just the impact that development has -- let's say you've got a house that used to be sitting out in the woods. Well, it's somewhat protected from low winds, it's got pine trees around. You figure if the winds are less than 70 miles an hour, the loads on that structure are fairly low.

Then let's say you come in and a new development clears all of that. Well, now it's exposed to those higher winds. So your probability of higher winds is higher. But the twist is, of course, if it's a pine tree, the top of the pine tree is going to come off at about 70 miles per hour.

So it's extremely complex. Most of the modelers update their databases at least on an annual basis. There are Commission standards that

address that issue in terms of making sure that they keep their internal databases up to date in terms of construction standards.

Of course, you know, when you talk about construction, just because it's hardened today, you build a house today on the coast and, you know, maybe it can withstand 130-mile-an-hour winds, but over time you get corrosion, you get vibration in the structure from trucks going by. So five years from now it may only stand up to 120-mile-per-hour.

So you've got to be careful. You can't just say, ah, it was built today to the standard, and, therefore, forevermore it will meet that standard. There's, you know, the maintenance of the structure and wear and tear of the --

SENATOR POSEY: Yes, the roof is going to go in a number of years like anybody else's. Do you break down -- when you look at damage, do you break down into detail as to wind damage, storm surge damage, and do you quantify it in those details generally for the companies?

MR. WATSON: The way the computer models work is, you're computing damage from phenomenon. So you'll have damage from winds; you'll have damage from actually rain intrusion into the structure;

and then you'll have damage from rising water, either from storm surge or river rain flooding.

Now, the way the insurance policies are generally written, especially for the U.S., the rising waters excluded -- that's handled by -- through FEMA, through the whole -- the National Flood Insurance Program. If it's water that comes through your roof because of rain, it's covered as part of your policy.

So the models have to track those and do track those types of damage. The more sophisticated models actually track damage also in terms of debris. For instance, is it just the force of the wind that caused the roof to come off, or did the structure damage because of that pine tree that's in your front yard coming down on your house?

SENATOR POSEY: You know, I mean, we've wondered --

THE CHAIRMAN: Senator, final question.

SENATOR POSEY: -- when we've seen thousands of fully mitigated properties canceled, you know, how the insurance company can lose. I mean, they basically have no exposure on new construction, 135-mile-an-hour stuff. The only thing would be a storm surge, which they wouldn't pay for anyway.

MR. WATSON: Well, again, that's getting a difference between the modeling. You know, the technical -- and that's something that you guys should really pay close attention to. There's the technical aspect of the modeling, which is actually, I would argue as someone who has worked in that field for 25 years -- I wrote my first model when I was in high school -- and the issue of the technical computer modeling, which has a certain level of uncertainty with it.

But then there's the policy issues of how you apply those models, and that cuts into the insurance realm. And you've hit an exact point, the models don't care, that's insurance policy.

SENATOR POSEY: Good answers. Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you. Members, we have approximately 13 minutes left. I have Senators Deutch, Alexander, Ring in that order.

Senator Deutch, you're recognized, sir.

SENATOR DEUTCH: Thank you, Mr. Chairman, for several quick questions, if I may.

First, you spoke of RMS having submitted a short or medium-term model. Are there other

companies that have submitted short or medium-term models also?

MR. WATSON: None submitted. There are others that have them and use them. And the difference in how you do these models, it's largely that which years you choose to use as a baseline.

SENATOR DEUTCH: Okay. And --

MR. WATSON: And it makes a big difference.

SENATOR DEUTCH: Okay. So none of the others have submitted. You know that the others are out there. When did you first see these short and medium-term models?

MR. WATSON: They've been around effectively since the beginning of modeling, for at least 10 or 15 years. Now, in terms of -- they have only started to be applied in the insurance industry relatively recently, but it's not a new development from a modeling perspective.

SENATOR DEUTCH: Right. And do you know why they've been applied only recently in the insurance industry? Do you know why they were first supplied to the insurance industry, or who might have requested that they start using these in the insurance industry?

MR. WATSON: You know, a lot of it comes down

to just the way the normal development process works, is that the science teams and the -- within the companies are researching these different aspects.

But I think the thing that really triggered it is -- and part of it's with the climate studies that you've heard of in that there's a lot of variability from year to year, and the models are now getting better at being able to predict that variability. So once you've got predicted value, then folks start getting interested in wanting to apply it.

SENATOR DEUTCH: Okay. Then, if I may, the reason that the RMS model -- you said the reason that the RMS model was rejected, or at least returned to them, was that it contained bias. Could you elaborate on what kind of bias that model contained?

MR. SIMONS: The Professional Team, when we were on site, we reviewed the process that was used by RMS. And what they did was, they brought in a panel of experts and they asked the experts some specific questions.

And in our Professional Team Report on that meeting, we described the fact that we believed

that the questions that were asked were -- they pointed -- they may have pointed the group of people toward higher rates --

THE CHAIRMAN: Leading questions?

MR. SIMONS: -- at the beginning of the process.

THE CHAIRMAN: I see your heads nodding that they were leading questions?

MR. SIMONS: Yes.

SENATOR DEUTCH: Just finally then, the comment was made that all models are bad. The question is, are they useful, and isn't that a function of who's asking that -- who's asking that question; and if the question is being asked by those who might stand to profit from higher premiums, wouldn't it make sense for them to then want to use one of these models that might help them in reaching that goal?

MR. WATSON: That question gets asked a lot, because if you look at these models you'll find some that are high, you'll find some that are low. So obviously if you're a consumer advocate, suddenly you get excited when you see a model that's low.

If you're maybe on the insurance side and

you're worried -- you know, take the profit issue out. If you're just concerned, well, I want to be careful because I don't want to go out of business, maybe you pick a high model.

That's why we developed the technique of using ensembles of hundreds, and in this case 900, almost 1,000 models, to come up with what the ranges are. So, yes, it's possible that there's bias in the sense of, you know, the evil plotting of let's pick one that's high. But mostly it's, they're trying -- you're either trying to protect your interest on the high or low side. That's why just having one or two or even five models is a little bit of a problem.

SENATOR DEUTCH: Here's is my last question then, Mr. Chairman.

THE CHAIRMAN: Go ahead.

SENATOR DEUTCH: If the one model that was -- the one short-term model that was submitted you thought was biased because it would lead to higher premiums, if I understand that correctly, no?

MR. SIMONS: No, no, sir. I didn't say that we thought it was biased because it would lead to higher premiums, I said that the process was biased because it pointed toward higher premiums.

There's another part to that, and that is that there are many different cyclical patterns that underlie the short or the long-term modeling process. And in order to come up with a shorter or medium-term model, it was the Professional Team's opinion that you should take into account all of those cycles. And we believed that perhaps RMS had based its short-term or medium-term model on partial cyclical patterns.

THE CHAIRMAN: Senator Deutch, they were saying that it was not the outcome that they thought was biased, it was the process that was being used to come up to reach that outcome --

MR. SIMONS: Thank you.

THE CHAIRMAN: -- that was biased.

DR. DUMM: But I think, just to clarify that a little bit farther, we as a Commission did not reject the RMS model. That needs to be understood. They submitted it to the audit process, the auditors had some problems with it, they withdrew it and made a change to go to a long-term position.

SENATOR DEUTCH: And then finally -- and this really is my last question -- does the -- would it make sense -- I understand that you rejected it for those purposes, but would it make sense for an

insurance company to use a short or medium-term model to determine how much reinsurance to buy? And then if you could comment on whether you've seen any indication in the industry as to the likelihood that perhaps the reinsurance industry may have either requested, suggested, encouraged, or not, the use of the short-term models by the insurance companies in determining that amount of reinsurance to purchase.

MR. WATSON: Actually, if I could -- I'm sure Marty will probably have a couple of words -- but, Mr. Chairman, if I could pull up one slide, I think that would answer a good bit of your questions here.

THE CHAIRMAN: I technically don't know how to do that; but if you can do it, great.

By the way, Members, we found out you have been provided with the colored slides, but they're in the clear-colored book that has all of the color slides.

MR. SIMONS: While he's putting that together, I would like to just say one thing relative to that -- the question itself, and that is that the reinsurers have much greater control over the use of the model in the reinsurance premium calculation

than the insurance company does.

It's the reinsurance company that decides which model it's going to use to develop the funds that it needs to bring $40 billion to the table.

SENATOR DEUTCH: Mr. Chairman, but then how does --

THE CHAIRMAN: Senator Deutch, last question really this time.

SENATOR DEUTCH: Yes. But how does -- when you say it's the reinsurance companies that determine which models to use, does that mean that the reinsurance companies would determine that it would be appropriate to use the short-term models in this instance?

MR. SIMONS: The reinsurance companies have, in fact, used the short-term models. And you have two parts to this process: You have the part that's regulated, and you have the part that's really -- I'm not going to say it's not regulated; but what the OIR is confronted with is that they're presented with base loss costs that are developed from the models that have been found acceptable by the Florida Commission. They're also presented with insurance companies' expenses. And included in the insurance companies' expenses are

reinsurance expenses.

So the insurance company is out in the market just as if a homeowner was out in the market buying insurance for his own property. And the reinsurance company comes in and says, we've got $20 billion we're willing to bring to this process, this is how much we want back for it.

And I think that the presentation made earlier covered that extremely well, that, yes, it's not necessarily a cyclical thing, it's a payback thing. And I thought that was an excellent, excellent analogy to bring to this group, is that reinsurers control that expense part.

THE CHAIRMAN: And, by the way, under Florida law, that would be prohibited. Florida insurance companies cannot charge more in the future to make up for past losses, but the reinsurers, since they're not regulated, apparently can and do.

DR. DUMM: I just wanted to add to that comment, Senator, if I could, is -- you look at the reinsurance industry going back to 2004 -- and I'm not here as a defender of the industry -- but they have been very vocal about this relationship between global warming, climate change and impact on catastrophic event.

Whether that is a believer because of the result or a believer in global warming, climate change, cat. event, regardless, they've been very aggressive about that particular position, whether it's Lord Levene, CEO of Lloyd's, Munich Re, Hanover, or Munich Re or Swiss Re, they all are very, very clear in their position.

So I think given the option, given their belief system, they would use the short-term model. Again, whether it's to get the price they want or whether it's because of this belief in the connection is an open question.

THE CHAIRMAN: Members, we have about four minutes. We have Senators Alexander, Ring, Fasano, Bennett in that order.

Senator Alexander, you're recognized.

SENATOR ALEXANDER: I have just a couple of questions. Earlier on you said you-all's job was not to be high or low, but to be as accurate as possible, that's the charge, and that's not affected by politics, just pure science-based decision-making. Is that accurate?

DR. DUMM: That's correct.

SENATOR ALEXANDER: And if you have, for whatever reason, not required or not approved

models containing revisions for the change in measured global temperatures, is it then your position as a commission that these will not positively or negatively affect the past or future experience on storms versus the past?

Because essentially if all you've done is models, quote, long-term based on the past stream of data for 1,000 years, or whatever it is -- and I think we have all seen global warming charts that look something like this model where we're going off the chart here. I don't know whether it's true or not.

But that would certainly say to me that something has changed that very well might affect the patterns that we will experience high or low. I don't know what it is.

So in that you haven't either required that sort of a component to a long-term model, or, you know, encouraged to the point of submission a short, medium-term model, I mean, how do you as scientific-based, not high, not low, calculate in how you think this will go? I mean, I don't know. That's what we're looking to y'all to to tell us.

THE CHAIRMAN: Gentlemen.

DR. DUMM: Just -- I'll lead the comment here,

and then I'm sure you'll hear from my better-positioned colleagues. I think that the problem we have is that we -- I think everybody agrees, we're in a period of global warming, as you indicated with the charts you would hold up and you would see a distinct pattern there.

The problem is in making the connection -- connecting the dots through to the catastrophic event. And that's what the near-term model proponents would say, is that that line is solid, it is clear, it is self-evident.

There's another group that says, there's no connection at all. And so we're sitting in a position of looking at both arguments and waiting for one to be proved right, and that could take a period of time.

So to answer your question as best as I can, there is no clear connection based on what we have seen looking across global warming, climate change and catastrophic event.

AIR, you'll hear from them in a second, they have got a position piece out talking about a short-term model, and I would encourage that you ask them about their results, because they indicate that although they do provide that particular

service, it is not something that they would promote given their preference for the long-term models. Even within the modeling community, there's this debate about which is the correct approach.

MR. SIMONS: If I could just add one thing to that, and that is that there is not only disagreement relative to the effect of global warming overall on hurricane frequencies, I think the bigger argument is becoming how the effect is on landfalling hurricanes.

And, in fact, global warming may, in fact, be changing the direction of some of these hurricanes. And it may, it may have a positive effect for the state of Florida in that perhaps some of the bigger hurricanes may be moved elsewhere. So there are many issues that have to be determined.

And the Commission is established in such a way that the science has to back up what they propose to do. I've been in regulation for more than two decades, and I believe that everybody in this business, especially in our side of the business, needs to look at this as if we were paying premiums.

I live in South Carolina. I don't pay Florida

premiums, but I look at each of these questions as if I'm representing the homeowner, the property owner, the people that are buying insurance in the state of Florida. And I think we need those questions answered before we allow those changes, whether they're increases or decreases.

THE CHAIRMAN: Members, we're pretty much out of time.

SENATOR ALEXANDER: Well, one last question. On this Florida Public Model that's been approved by you guys, it looks like in some of the slides you've got here that it is much more what I'd call flat across the -- I guess that's the risk percentage or risk cost per county. It's a lot flatter than the other models.

And then I'm looking at this one where you've got all kind of different versions, and that puppy jumps all over everywhere. I mean -- and you almost have -- you have risk down here in some of these, in Marion County, that says it is as significant as some of the south Florida counties, or, you know, 80 percent of Dade County.

I mean, how's that? I've never heard of, in the history of Florida, a hurricane of any consequence getting to Marion County.

THE CHAIRMAN: Members, you'll need to answer quickly, if you can, please.

MR. WATSON: I guess if I can jump in, a quick answer to that is, it's important to recognize that the standards -- you can have a model that meets the standards that has a lot of variability in it.

And what we're finding over time is that, you know, the standards are improved. And so you may have a model that comes in and meets the existing standards, but then you look at it and go, wow, maybe we need a new standard for X or Y.

So you'll see the standards change this year just like you have in every previous year, and it may address some of those issues.

MR. SIMONS: Once again, I'd like to add something to that, and that is, I referenced earlier the Professional Team Report that we provide to the Commission after our onsite visit. I believe those questions are detailed in our Professional Team Report of the various audits we made on the Florida Public Model.

And I think there's a wealth of information in there relative to each of the changes that was made following our first, second and third visit with the Public Model.

SENATOR ALEXANDER: Well, it's just hard for me to imagine --

THE CHAIRMAN: Senator, we're way out of time.

SENATOR ALEXANDER: -- Marion County and Monroe County are four versus six. I mean, that just seems pretty strange.

THE CHAIRMAN: Okay. Gentlemen, thank you for being here.

Senators Ring, Fasano, Bennett, again, I apologize, we only have an hour and 12 minutes left.

SENATOR FASANO: Mr. Chairman, could I ask a question of the staff --

THE CHAIRMAN: Sure, go ahead.

SENATOR FASANO: -- since we can't ask questions of the people who are testifying? The Florida Commission on Hurricane Loss Projection Methodology, when was that created? Who appoints these individuals to that Commission?

MR. DEFFENBAUGH: Senator Fasano, I believe one of the slides had answered that. Let me just flip to it.

Well, if you look at page 5 behind tab 4, it shows who appoints the three actuaries, who are the experts appointed by the CFO, and then the last

four bullets are persons who are made members by virtue of their office. But then you're also hearing from Professional Team members, and these are hired by the Commission, contracted with by the Commission.

SENATOR FASANO: So these individuals are hired --

MR. DEFFENBAUGH: Well --

SENATOR FASANO: -- some of them are?

MR. DEFFENBAUGH: -- the two on the right are members, Dr. Nicholson and Dr. --

SENATOR FASANO: The reason why I ask is I notice one of them doesn't even live in Florida.

MR. DEFFENBAUGH: That's correct.

SENATOR FASANO: Right, yes. Just out of curiosity, also maybe staff can -- they're showing here on page 11 total costs to date, over $4.2 million. What costs are derived from that? What is that cost, do you know?

MR. DEFFENBAUGH: I believe that's referring to the expenses of the Commission since its creation in 1996 --

THE CHAIRMAN: '4.

MR. DEFFENBAUGH: I'm sorry, '95, 19--

SENATOR FASANO: Maybe staff can help me with

this. It is my understanding that these models that are created by this Commission is what is -- is what begins the process, is that right, as far as what reinsurance -- what the cost will reinsurance be, and then the cost of eventually what the insurance companies will charge or be approved based on the models, then eventually what they --

THE CHAIRMAN: They don't create the models.

SENATOR FASANO: Well, let me finish, Mr. Chairman, if I may -- and then eventually the homeowner. I mean, somebody is paying a premium based on models, is that correct?

MR. DEFFENBAUGH: That serves as a basis for developing the premiums. And, you know, models, I mean, predated the Commission. I mean, really the -- I mean, the Florida Legislature created the Commission because the models were being developed and we wanted a body to review those models.

SENATOR FASANO: And these are the models that OIR spoke about at the last meeting saying that they believe that these are the only models that should be used in determining whether insurance -- that the insurance companies should be using, is that correct?

MR. DEFFENBAUGH: If they're determined to be acceptable by the Commission, then the law says that they are admissible and relevant in a rate hearing if OIR has all of the assumptions.

SENATOR FASANO: So I guess the bottom line, Staff, would be that if the model is incorrect somewhere down the road -- if the model is incorrect, the homeowner could pay the consequences?

MR. DEFFENBAUGH: I guess that is possible, yes.

SENATOR FASANO: Thank you.

(The Chairman is now Senator Atwater.)

THE CHAIRMAN: Thank you to our guests who came on the panel today. And we do note that you came a significant distance, or some are very close by. And I would hope that you might, as we begin the session -- would be available to return to the Banking and Insurance committees. I think there will be a similar number of questions. Thank you.

Members --

SENATOR GELLER: By the way, my script says I'm supposed to turn over the Chair to Senator Atwater here, and I'm following the script again.

THE CHAIRMAN: Members, we would now invite up

to visit with us members of AIR Worldwide Corporation. And if those individuals are here, if they would please come forward. Thank you.

Members, as a reminder, we've invited representatives of a very familiar private insurance hurricane loss modeling company, AIR Corporation. We would have liked to have heard from additional modeling companies; but due to our time limitations, we've limited it to AIR today. Four of the insurance companies that testified at our last meeting said that they used the AIR loss models.

With us today are David Lalonde, Senior Vice President; John Rollins, Vice President; and Dr. Peter Dailey, Director of Research in Atmospheric Science.

Gentlemen, as you know, we are taking all testimony under oath. Are you prepared to offer your testimony under oath today?

MR. ROLLINS: Yes.

MR. LALONDE: Yes.

DR. DAILEY: Yes.

THE CHAIRMAN: Gentlemen, if you would all please raise your right hand. I will ask this question, you can answer it together, and then I

will ask each of you individually to affirm the answer.

(Witnesses sworn en masse.)

THE CHAIRMAN: Mr. Dailey?

DR. DAILEY: I do.

THE CHAIRMAN: Mr. Lalonde?

MR. LALONDE: I do.

THE CHAIRMAN: Mr. Rollins?

MR. ROLLINS: Yes, I do.

THE CHAIRMAN: And all have affirmed that.

Mr. Lalonde or Dr. -- Mr. Lalonde, did you wish to begin this presentation, or how would you-all like to begin with your presentation from the company's perspective?

MR. LALONDE: We have some prepared remarks that we'd like to make. We should take less than 15 minutes and leave plenty of time for questions.

THE CHAIRMAN: That would be very helpful. Will it be yourself, sir, or will the others be participating in the opening comments?

MR. LALONDE: Myself and Dr. Dailey.

THE CHAIRMAN: Okay. And if you would prefer to do it either from your seat or from the podium, it's at your call.

MR. ROLLINS: Mr. Chairman, as long as our

slides are available, just tell Mr. Lalonde how to cycle through the slides --

MR. LALONDE: Yes.

MR. ROLLINS: -- because the slides will travel with the presentation of opening statements.

THE CHAIRMAN: All right. Very good.

Mr. Deffenbaugh, would you be able to do that?

MR. LALONDE: I believe we prepared -- or provided the slides in advance, and they should be in your package.

THE CHAIRMAN: While we're getting that technically up on the screen, Mr. Lalonde, would prefer to just go ahead and begin? Would you like to take us to -- we would be then beyond tab 5, Members.

MR. LALONDE: Okay, behind tab 5.

THE CHAIRMAN: Right, behind tab 5.

MR. LALONDE: If you will work on the technical details, then I can start.

THE CHAIRMAN: There we go. Thank you, sir. I appreciate it.

MR. LALONDE: Good morning, Co-Chairs Atwater and Geller and senators serving on the Florida Senate Select Committee on Property Insurance Accountability. Thank you for the opportunity to

come before the Committee today and assist with catastrophe modeling topics.

My name is David Lalonde. I'm Senior Vice President of AIR Worldwide Corporation, a catastrophe modeling firm headquartered in Boston. With me today are Dr. Peter Dailey, our Director of Atmospheric Science; and John Rollins, Vice President in our Tallahassee office.

In my discussion today, I will introduce AIR and discuss our approach to catastrophe modeling. Next, Dr. Dailey will address the science behind the models. I will then discuss the many ways in which AIR models have been and continue to be subject to independent review.

Finally, together with John Rollins, an experienced Florida property insurance actuary, we believe we can answer most of the Committee's questions regarding the issues we were asked to address.

AIR pioneered the development of probabilistic catastrophe modeling as an alternative to the standard actuarial rule of thumb approaches on which insurance companies had relied for the estimation of potential catastrophe losses. In 1987, AIR introduced the modeling methodology based

on simulation techniques and mathematical approaches long accepted in a wide variety of scientific disciplines.

Over 20 years of research and development has significantly broadened our understanding of the financial effects of hurricanes, earthquakes and other natural catastrophes, and our collective experience. We serve over 400 organizations in both the private and public sectors from offices around the world, including one here in Tallahassee. Our methods are highly interdisciplinary, bringing together more than 200 professionals, 30 or more with Ph.D.s in their field, and many others with advanced degrees.

The computer simulation approach, whereby we simulate thousands of potential hurricanes and estimate the potential damages and insured losses that can occur, holds many advantages: First, it's able to capture the effects of changes over time in population patterns, building codes, amounts insured and construction costs. Second, it provides a complete picture of the probability distribution of losses rather than just estimates of the PML or average annual loss. Finally, the simulation methodology provides a framework for

performing sensitivity analyses.

The models are based upon detailed data gathered from historical catastrophic events. Where historical data is either limited or not available, the models use science to fill the gaps. This allows for analyses that consider a wide range of possible forward-looking scenarios, thus leading to more stability in the estimated expected annual loss.

The model output is one of several sources of information companies are using for managing their distribution of exposure, analyzing the effects of policy conditions, developing appropriate insurance rates and underwriting guidelines and making decisions regarding the transfer of risk. The same model output is used by all interested parties when negotiating the assumption and transfer of risk. The output is not biased to favor any party to the negotiation.

The experience of 2004 and 2005 are recent reminders that the risk of loss from hurricanes is real. At the same time, the loss estimates produced by the models continue to increase due to the ever-increasing exposures in catastrophe-prone regions of the country.

The increases are driven primarily by increases in the number and value of insured properties. These demographic trends have resulted in large increases in the total insured value of properties in the coastal areas. AIR estimates that the value of properties in coastal areas in the United States has roughly doubled over the last decade.

It's important to keep in mind that catastrophe models can only measure risk. They can't change it. Only mitigation efforts will have an impact on the actual level of loss, risk of loss from natural disasters.

I will now ask Dr. Dailey to discuss the science and assumptions behind AIR's hurricane modeling and address the updating of our models, including research at AIR, related to the current state of the warm sea surface temperatures in the Atlantic basin.

They're still working on it. You can refer to slide 4.

DR. DAILEY: Okay.

MR. LALONDE: We're on slide 4 now, as far as the information, Members.

DR. DAILEY: As David mentioned, I'm AIR's

Director of Atmospheric Science, and I lead various research and modeling projects at AIR. I lead all the development activities related to AIR's U.S. Hurricane Model, and I direct several projects in emerging research, one of which I'll have a chance to discuss with you today.

AIR develops catastrophe models used to address a number of key questions, including location, size, frequency of potential future catastrophic events. By combining mathematical representations of the natural occurrence patterns and the characteristics of hurricanes, tornados, earthquakes, severe winter storms and other catastrophes with knowledge about property value, construction type, occupancy classes, and about the coverages provided, the simulation models provide information to companies concerned with the potential for large losses before they occur.

The purpose of catastrophe modeling is to anticipate the likelihood and severity of potential future catastrophic events and how they will impact losses to policyholders so that companies can appropriately prepare for their financial impact.

So, just to clarify, catastrophe models are not developed in order to predict the level of

future storm activity which will occur over the next one or several seasons. In essence, a catastrophe model estimates the climatological risk posed by a particular peril; and in the case of today's discussion, the risk Atlantic hurricanes pose to the state of Florida.

Now, because the climate is non-stationary, or always changing, hurricane activity also changes in response to dynamic climate signals. For example, everyone knows that each hurricane season is different from a variety of perspectives, and that is due to the fluctuations in various aspects of the climate that influence hurricane development. These climate signals include, for example, the warmth of the ocean surface which serves as the fuel for hurricanes, and the level of atmospheric wind shear which inhibits storms from forming and intensifying.

In order to better understand how climate influences seasonal activity, we've evolved a research program which has its roots in climatology. In other words, is the climate changing dramatically, and if so, how do climate shifts influence hurricane risk? Our research of projects over the past few years have focused on

three fundamental questions -- and this would be the second slide in your handout -- first, if Atlantic tropical cyclone climatology is non-stationary, what are the key climate signals which cause it to fluctuate? It's well known that climate itself is non-stationary, but how about the features of the climate that bring about tropical cyclones?

Some scientists agree that the warmer the sea surface temperatures, also known as SSTs, the more likely storms will form and the more intense they will become. Most of the relevant research in this area relates to hurricanes over the open ocean, not hurricane landfall. But climatologically speaking, this does make sense, but it's not a deterministic statement.

Many historical hurricane seasons have had warmer than average SSTs, but it produced fewer than the average number of hurricanes. The 2006 and 2007 seasons are recent examples. It turns out that SSTs, the most highly correlated of climate signals related to hurricane activity, can only explain a small portion of year-to-year fluctuations in activity. All other signals combined, like ENSO, the El Nino Southern

Oscillation, the NAO, the North Atlantic Oscillation, and the Saharan Air Layer, which describes dust storm activities from the Sahara Desert, altogether produce the vast majority of variation we see from year to year. Most of these climate mechanisms are difficult to predict beyond a season, thus making it difficult to forecast activity beyond a year.

Second, given that most of the scientific research revolves around the impact of climate on Atlantic basin activity, how does that activity relate to landfall risk? I've spoken so far only about the impacts of climate on tropical activity in the Atlantic Ocean, but one can ask the question: If a warmer than average ocean tends to produce X percent more hurricanes than average, does this mean we should expect the same level of increase in hurricane landfalls in the United States, in the state of Florida?

As it turns out, the question is not a simple one. Naturally occurring environmental feedbacks, some well understood and some not so well understood, may mask the effects of a warming ocean when it comes to landfall activity. For example, if a warm ocean modifies the airflow that controls

storm movement, then one might see a different level of impact at landfall than what's observed over the ocean.

The relationship between basin activity and landfall activity is a hot topic these days, partly because it focuses climate research on what's important, namely the effects on people and property, but also because it's a very challenging scientific question which requires an intimate understanding of the physics and strict quality control on the data used in the analyses.

Finally, third, how does time scale relate to assessments of risk? In other words, how does the risk in the upcoming hurricane season relate to the risk over the next several seasons and to the risk through the end of the century? It is critically important in examining these issues that one maintains perspective on timescale.

The key climate signals which influence hurricane activity in the coming season may be very different from those affecting the next several seasons, and again different from those affecting climate projections like those contained in the IPCC report through the end of the 21st century.

To bring a timescale perspective to the risk,

AIR is extending its research program to study the impacts of climate at timescales beyond five years. Realize that the longer the timescale, the higher the degree of uncertainty. Thus, one can say more about the expectations for the coming season than for the next five seasons and certainly for hurricane activity in the year 2050 or 2100.

I only have limited time today to discuss AIR's original research in the area of climate and hurricane risk, but I can certainly get into more details during the Q and A. For now, I'd just like to show a graphic which highlights some of our key focus areas. And this would be the subsequent slide.

THE CHAIRMAN: Members, that's the sixth slide back in the packet, the one with the map of the Carribean.

DR. DAILEY: What you're looking at is a view of the Atlantic Ocean and the coast of North America. Each gray dot indicates a starting location, or what we call a genesis point, of a tropical storm contained in the most dependable part of the historical records, specifically from 1948 to present.

The color contours, or if you have a gray

scale version, the gray scale contours, reflect the density of these points known as genesis density. The red hot spot in the Gulf of Mexico indicates that historically most tropical storms have developed over the Gulf of Mexico, but also a substantial number have developed over a band of tropical latitudes extending to the coast of Africa. And this zone is meteorologically known as the Main Development Region, or the MDR.

Now, in examining genesis, we've come across several interesting aspects of Atlantic basin climatology. First, note that the region of relatively low genesis around the Caribbean Islands. Now, there are several plausible reasons why storm development is suppressed here: First, this is where Atlantic wind shear tends to be highest, and recall that wind shear prevents topical cyclones from intensifying. Second, during El Nino years, years in which the Pacific waters off the coast of Peru are periodically warm, wind shear increases most sharply in this part of the Atlantic.

So this is one reason why researchers are finding that under global warming scenarios projected to the end of the century, El Nino-like

conditions could become more frequent, which would intensify and expand this shear region and lead to the supression of tropical activity. In fact, some scientists have concluded that the net effect of a climate that warms to levels projected to the end of the century would mean an overall decrease in Atlantic hurricane activity.

Now, to understand how changes in genesis relate to changes in landfall risk, one must first analyze how genesis patterns change from year to year and then determine the probability of storms making landfall from key genesis regions.

As it turns out, the high density of tropical storms in the Gulf of Mexico may be less important for the risk in Florida than storms originating from the MDR. The reason is that storms developing in the Gulf on average have much less time to intensify to hurricane strength than those originating over the open Atlantic. And this is a find about climate, not weather. So it applies to mean or expected conditions, not to individual events.

Now, everything you see here is based on historical data analysis, not forecast or simulation. A great deal of valuable work can be

done by taking advantage of the full historical record. That does not mean there are no data issues, however. The early part of the Atlantic record, especially from where it begins in the 1850s to the middle part of the 20th century, has likely undercounted Atlantic storms which were missed by ships and buoys and were not observed by modern day satellites.

For this reason, we have done sensitivity testing to measure the impact of the sample size, and our high-level conclusions do not change. We did finally settle on using the period from 1948 to present for most of our analyses since this represents a reasonable mix of sample size and data quality.

Historical landfall data can be used to determine how hurricane risk in Florida is influenced by the climate; but because of limitations and potential deficiencies in the data, it's important to determine whether the results of such an analysis makes sense from a meteorological point of view.

This is why genesis is so important. By determining the source regions for Florida landfalls and how these source regions change with

climate, one can connect the effects of climate on landfall to the physical influences of climate on storms, how they develop and how they form.

Connections between the historical data, the statistics and the meteorology require close scrutiny before moving on to modeling how losses might be influenced in coming years.

AIR has paid very close attention to these relationships and the uncertainties associated with each step in the modeling process. In the end, the limitations of the historical record come with a price. Namely, in the period from 1948 to present, the Atlantic has been warmer than average in roughly half those seasons, which means any hurricane climatology based on a warm ocean condition is based on a smaller dataset and has a higher level of uncertainty than the unconditioned climatology, which is based on all hurricane seasons.

The near-term catalog thus reflects a scientifically credible view of risk, but with a higher level of uncertainty than our standard, which is based on 20 years of research and development and all the historical seasons.

Lastly, I'd just like to point out that AIR

has taken great pride in developing a meteorological team of eight scientists, seven of whom have Ph.Ds. The team's research is cutting edge, and, in fact, has been presented at various meteorological conferences, will be published in a book called Hurricanes and Climate Change later this year, and will also be published in a peer-reviewed meteorological journal called the Journal of Applied Meteorology and Climatology.

The work is by no means complete, but the versatility of the research will allow for its application to other perils in other regions of the world.

MR. LALONDE: Since 2006, AIR has released a near-term catalog of stochastic storms, one that represents potentially increased hurricane risk. The near-term catalog is issued as a supplement to rather than a replacement for AIR's standard U.S. hurricane catalog, which is based on over 100 years of historical data and 20 years of research and development.

By providing two credible estimates of hurricane risk, AIR is providing clients with more information. AIR continues to emphasize that the near-term catalogs are associated with higher

uncertainty than the standard catalog. Independent bodies, such as we just heard from the Florida Commission on Hurricane Loss Projection Methodology, as well as state regulators, have had complete access to all aspects of our model.

We understand the desire for regulatory scrutiny of models that are being used for important and wide-reaching financial decisions; and, in fact, AIR has already committed significant resources to meeting model review standards in a number of states. The cost of model submissions was not included in that $4.2 million number we saw earlier.

The models have also been reviewed throughly in the commericial marketplace. AIR models are based on years of scientific research and data analysis. Since AIR's inception, its models have undergone a comprehensive process of refinement, enhancement, validation and review. In addition to our continuous cycle of internal peer review, model components, including components of our near-term hurricane model, have been subjected to independent scientific peer review and scrutinized by rating agencies, state insurance departments and our clients.

AIR has provided volumes of information about its model to state insurance regulators and has answered all questions about model components that have arisen. We have opened the model to state agencies for detailed review, both visiting state offices to discuss the model, and inviting the agencies to view the information at our offices, including our office here in Tallahassee.

We have responded to formal requests for model information for many states, including Florida, South Carolina, Louisiana, Texas and Hawaii.

Insurance rates, in part, based on AIR models, have been followed and approved in many states. The AIR hurricane model was certified under the original 1996 standards of the Florida Commission on Hurricane Loss Projection Methodology and has been certified by the Commission in all subsequent years.

AIR clients are sophisticated business professionals who do not use the models blindly. We provide our clients with technical documentation and offer continuing model education through structured training, conferences, seminars, white papers. In addition, we speak publicly frequently about our models.

In conclusion, I'd like to assure the Senate Committee and all Floridians that AIR has played and continues to play a role in advising insurers, governments, and other stakeholders of the hurricane risk in Florida, not to mention catastrophe risks around the globe.

Our models will always be underpinned by the same foundation of scientific research and technology, and this does not and will not change according to the nature of any particular client. We will continue our research into landfalling Atlantic hurricane activity in the presence of today's climate signals and present our best views of the risk based on one or more credible catalogs of simulated events.

We understand that insurers, reinsurers and governments use our models to inform their judgments about ratemaking and capitalization, and we are aware that these judgments have significant consequences for Florida, both the pocketbooks of its consumers, and the strength of its property insurance market. AIR's role is providing information and scientific interpretation to all parties.

Finally, as Florida's economy and property

insurance market evolve in response to the supply and demand for capital, insurance product and pricing innovations and public policy decisions, AIR hopes to remain a trusted, independent source for catastrophe risk assessment. To that end, we have a continuing relationship with the Florida Commission, a local presence here and sincerely offer our help to Florida state leaders and market players. Thank you.

THE CHAIRMAN: Thank you, sir.

Senator Posey, I think you had your hand up.

SENATOR POSEY: Thank you, Mr. Chairman. I just wanted to make sure that I got in a question or remark before we ran out of time, because I know from the last couple of groups we had here that we're going to run out of time.

THE CHAIRMAN: Right.

SENATOR POSEY: And so I appreciate you recognizing me a little bit early.

That being said, you know, I want to compliment you and Co-Chair Geller on some very intensive fact-finding sessions that the members have sat through. We've got a lot of questions answered, we have quite a few questions that remain unanswered, and we've got a plethora of new

questions generated by the unanswered ones.

You know, we are -- and I'm not saying it was intentional or unintentional, that's just the facts as I see them -- you know, we are citizen Legislature. We're going to be in session shortly for 60 days, and we're going to be not in session for 10 months.

I think that we should maybe give some consideration to seeking some outside counsel, that even when we're not here we'll continue to pursue the answers to these questions that we want. I think having these sessions under oath has provided better insight than we have had otherwise for the past two years.

And I think outside counsel could do that, and I think we could submit questions to the counsel and they could take the depositions even when we're not in session, even when we're not here, until we reach a point where all the i's are dotted and the t's are crossed and we can connect the points.

Right now I'm -- my connect-the-dots are getting further apart. I was hoping they would start beginning to coalesce and we could put this puzzle together, but that's not happening. The puzzle is getting even more fragmented.

And that's just a suggestion that I make to the two chairmen, and, you know, would appreciate your consideration in any communications that you have with the President maybe that we pursue this a little bit further than that.

You know, so often, and today -- today not so much, but, I mean, we've had some testimony that clearly was not as forthcoming maybe as we would have wanted it, and there just seemed to be the misunderstanding out there that as soon as it got to be 2:00 or 11:30 or when your time limit was up, that the game was over and you're home free.

And I think we all agree that that's not the case, that until we get the information we want -- and I'm not saying until we get the information we like, but until we get the information we want, I would like to see we continue even past maybe the scheduled ending of this committee, which is today, either ask to have this extended or maybe pass part of the ball over to some outside counsel that would continue it on our behalf. And I just thank you for taking my comments.

THE CHAIRMAN: Thank you, Senator Posey. I believe from a -- frankly a conversation we've already had with the President regarding the matter

of outside counsel assisting us, that he leaned to, I believe at least my interpretation of his response, was that he would be inclined to take the recommendation from the Committee.

SENATOR POSEY: Thank you.

THE CHAIRMAN: Let me, again, with a -- Mr. Lalonde, I'll begin with you. You may wish to defer this to someone else. You spoke with some pride there about the fact that your model has been approved in the state of Florida, the -- we used kind of the terminology, "a long-term model." You may wish to clarify that.

But you spoke with certainly, I think, corporate pride about that fact in other places as well. So the question would be: Do you believe then it is sound public policy that models should be reviewed and approved before they are utilized for ratemaking?

MR. LALONDE: The model being certified by the state of Florida, I think, has value to modelers. It comes at a very high cost to the modelers, the cost of submitting a model to Florida on an annual basis, probably in excess of $500,000.

But I think there is value in that, but it needs to be done in an effective and efficient way

so that in the state of Florida, while the model is reviewed by the Commission, the model is then subsequently reviewed again by the OIR after that fact.

THE CHAIRMAN: But help me just -- again, I noted that you spoke with pride, and I can understand that, that all the work and all the energy, all that you have done as an organization, you have -- you spoke with pride that the Florida Commission has approved that model, and it is -- it then just seems to be that -- again, my question could be yes or no. Would it make good public policy that a model would be approved prior to its use for ratemaking?

MR. LALONDE: Yes, that is good public policy. However, I believe under the Commission the model is certified as meeting the standards, not technically approved.

THE CHAIRMAN: Very well. How about if I could then follow-up -- I just want clarification on Dr. -- what Dr. Dailey shared with us. Again, I'm going to refer to an article that you had written May -- it was published March/April '07, and I think it's Contingencies.

MR. LALONDE: Yes.

THE CHAIRMAN: And you're referring to this matter of the models. And I'll just read the two sentences here: We at AIR released a near-term catalog that can be used to conduct sensitivity analysis or defines human portfolio optimization. We continue to believe, given the current rate of the science, that the standard model, which I take as different from the near-term catalog, the standard model, based on over 100 years of historical data and over 20 years of research and development, remains the most credible model.

Could you help me understand where you were headed with that?

MR. LALONDE: This is true, because the standard model that we refer to is our model based on 100 years of data and 20 years of research, what you would call the long-term model.

THE CHAIRMAN: And the one approved by the state of Florida?

MR. LALONDE: And the one that is certified by the state of Florida.

THE CHAIRMAN: Certified by the state of Florida.

MR. LALONDE: And the near-term model is a model that is conditioned on the warm sea surface

temperature, so it is subject to -- it is based on fewer data points and subject to more uncertainty. I think that there is scientific debate relative to the impact of warm sea surface temperatures on potential hurricane activity.

I think that as a company helping clients understand risk and guided by ASOP 38, Acturial Standard of Practice 38, which requires company actuaries who use models to review the impact of controversy or disagreement among its experts, that providing more information on what the potential impact of a warm sea surface temperature is is an appropriate approach and a not unreasonable approach to providing information for their further consideration in conjunction with the standard model in making their final decision on rate levels.

THE CHAIRMAN: And I won't ask this for Senator Fasano, but it seemed like he was going with this a minute ago -- it gets back to the point that there is an in-game person who is receiving the benefit of a service, that be it the consumer, and they're, frankly, in the midst of all of these calculations, the one who ends up writing the check.

And, therefore, all of the -- this effort that goes in prior to them getting to the point where it lands in their mailbox to write the check, they are subject to what was referred to earlier as possible biases, perspective, positions, strategies of companies that will utilize your tool, and to that end, just the paragraph before, what -- referenced about the variances in the model using a near-term catalog.

And it noted, for 7 of the 11 coastal regions defined for purposes of the analysis, the lower end of the 95 percent confidence band actually indicates that a decrease in frequency was also possible.

Does the consumer ever get the benefit of that doubt?

MR. LALONDE: Well, it's all -- it's information that we provide, and people that are using that information to make rates can make an appropriate adjustment. And if they believe the lower end of that range, although there's a large amount of variability around it, they may have some influence on where they want to write business.

THE CHAIRMAN: And so then just 7 of the 11 regions, that just seems to be not something in

passing of footnote, that they may actually have opportunity for a frequency of lower, less impact.

DR. DAILEY: Sure, yes, I think that you're right. And, actually, what the analysis shows -- and this is what I was getting into a bit in my statement -- is that there are a variety of climate signals which play into a given hurricane season or a series of hurricane seasons or into projections of how climate will actually affect hurricane activity.

Ultimately, to try and analyze and assess the impact involves two steps: First, understanding and then estimating the mean impact, the impact on expectations; but then the second part that we think we brought to this is also estimating the range.

Now, it's true that 7 of the 11 regions indicate the potential at the low end of the range for a decrease. And we understand the reason for that is because there is a multitude of climate signals that play into hurricane activity. It's not simply to say warm sea surface temperatures produce more storms, produce more hurricanes, produce more landfalling hurricanes, produce more loss.

That whole chain of events, or that whole change of physics, involve a series of assumptions. In assessing the data and actually trying to make an estimate, we've done that, and what we have determined is the mean expectation may be for an increase in frequency, but that does not mean that the range does not indicate the possibility for a decrease.

And that's what -- a lot of the scientific research right now, and the reason for the debate, revolves around the idea that it's not a simple question to answer. And that's the reason why, even within the scientific community, there is no answer, and that's the reason the research has to continue.

THE CHAIRMAN: I think that you were in the audience when the previous panel spoke of the fact that when someone -- when they saw how someone might have begun to utilize an instrument, that their very approach was taking them in a direction that there was the potential for bias being built into where they were going to head with that.

And so I want to just thank you for the answers, because what seems to be here is that you're recognizing the variances, you're

recognizing the potential, you're even recognizing with pride the certification authorization of a model before it's put to use by someone, I suspect even supplementing their rate filing with this information.

Public policy would say, before that's gone off and used in that fashion, it wouldn't be bad to have such a model certified. And I guess it's your testimony -- it certainly was there -- is that your model has not -- no near-term cataloging has been authorized or certified by the Commission. That would be accurate?

MR. LALONDE: That would be accurate.

THE CHAIRMAN: How about this then -- and I'll finish with this -- has any of your customers, meaning, I take it, the insurance companies that utilize your tool -- have any of them ever asked you to create a near-term catalog, a supplemental model, a near-term model, a short-term model? Have they ever asked you to create for them such a tool?

MR. LALONDE: No.

THE CHAIRMAN: And you would then -- Mr. Lalonde, you would testify before us that you could -- speaking for the entire team, that is the case, it would come through you, you would have

seen the memo, seen the request, heard the phone call?

MR. LALONDE: I never saw any such memo or phone call, no.

THE CHAIRMAN: But you feel confident answering for the entire company that the corporation has never been asked, nor have you supplied any information of the creation of any tool asked for by the industry itself?

MR. LALONDE: That's correct, not to my knowledge.

THE CHAIRMAN: Very well.

Senator Geller, did you have a question? Then we have to move on. Members, we will go until 11:40.

Senator Geller, you're recognized.

SENATOR GELLER: Just to briefly follow up on what Senator Atwater was discussing -- and I'm trying to elaborate a little bit more on the use of the short-term model and why it is being used.

We've heard testimony that there is a conflict, the NOAH school of thought, which certainly is a governmental group that has no ax to grind, has said that they believe that the long -- that the short-term model, because of increased

ocean -- global warming in ocean temperature may, in fact, result in less hurricanes hitting Florida based on steering patterns and wind shear. We've heard conflicting opinions.

Can you tell -- well, first of all, have you looked at the NOAH -- when you've come up with the short-term model, have you looked at the theories espoused by NOAH?

DR. DAILEY: Yes, we have. Of course, we're always aware of the body of knowledge that's out there which actually falls into a multitude of categories, some seasonal forecasting, some in just assessing climate impacts on hurricanes, and others looking at long-term projections, like those of the IPCC report, for example.

Now, ultimately NOAH is sort of a microcosm of the scientific community. You know, there are scientists within NOAH that may have differing opinions in doing different types of research. In the end, it sort of comes down to what is the state of the science. And the state of the science is mostly revolving around the impact of climate on Atlantic basin activity, not specifically focused on say the impact on Florida landfalls or even U.S. landfalls, for that matter.

Now, what distinguishes between the two? Well, Atlantic activity is highly influenced by the warmth of the ocean and the level of wind shear. But it's also known that when it comes to landfall activity, the connection between what happens in the Atlantic basin and what happens at landfall is how storms move.

Now, how does climate influence how storms move? There is very little scientific research, published peer-reviewed research, that really looks into that issue. So ultimately to understand landfall risk requires doing a little bit more than what's available.

Back to the specific question about NOAH, I think that they are like everyone else, and including -- we would put ourselves in the category of trying to understand it better. And ultimately what that means is, you start to answer some questions and ultimately you actually end up asking many more.

And we're actually at that point in the state of the science. We can't answer many of the questions that relate to the ultimate influence on landfall activity.

SENATOR GELLER: Well, sir, just to ask then,

as you say, one question leads to more, I'll ask another question, which is: If NOAH, which, again, seems to -- to those of us here, NOAH seems to be somebody with no ax to grind as opposed to private sector companies that frequently do have, you know, a predisposition one way or the other.

So what I'm trying to ascertain is, it would appear that the short-term model would give credence to one of the positions out there, which is that there will be more hurricanes. And the modeling involves more hurricanes hitting Florida or hitting the U.S., while giving less credence to the theory espoused by NOAH that that is completely backwards.

Can you elaborate on that?

DR. DAILEY: Well, nothing you have said is incorrect, but I think what you have to come back to --

SENATOR GELLER: All right, you can stop right there.

DR. DAILEY: What you have to come back to is, what is the research focused on? Now, to a large extent what NOAH works on, not to say all of what they work on, but to a large extent they work on seasonal forecasting. And seasonal forecasting

plays a role in what will obviously happen in the upcoming season, and could play a role in the so-called near term if you were actually trying to forecast in the near term.

Now, what we've developed is actually very different. What our near-term or medium-term methodology relates to is how does warm ocean temperatures relate to landfall risk? That's not a projection. We're not saying that over the next five or ten years this will be the level of risk, we're saying that under warm SSTs, which has been the case since 1995, this is the effect you should expect on average.

Now, NOAH's research, and especially NOAH's seasonal forecast, relates specifically to the upcoming season. And I don't think the scientists that developed those forecasts would necessarily apply it to the next even two seasons, never mind five. And then it gets confused also with these longer-term projections of 50 to 100 years.

So, ultimately, the research is there. The research even within NOAH may be conflicting, but the research that we have to pay attention to is not just that research on seasonal forecasts, but all of the research revolving around climate, how

it affects basin and landfall activity.

SENATOR GELLER: Okay. Let me -- in the interest of time, I will just ask the last question: The follow-up, again, on what Senator Atwater was saying, what I've been trying to ascertain is why we have the short-term model. I believe you've testified that there is an additional value to having the model certified. You've also testified that the long-term model remains the more credible model.

And what I'm trying to figure out is, why we have the short-term model; why y'all have developed the short-term model; and why the insurance industry is using it?

We have been informed by OIR -- I have not personally heard this -- we've been informed that one of the other modeling companies, at least, has implied that you've created the short-term model at the request of the insurance industry, but that they have asked for a short-term model as well because of the theory that -- well, that the way it's working out, that that will result in higher rates, which is not, I think, a fair conclusion to arrive at, again, on something where you yourselves have said that the long-term model is more

accurate.

So can you elaborate on why the short-term model was created and to what extent you think it is appropriate to use?

And that's my last question, Mr. Chairman.

MR. LALONDE: Sure. I belive I can shed some light by going back into history. But first I want to say that the short-term model is not a different model, it is the same model with a different catalog reflecting a higher frequency in severity of potential events. So there's a component of it.

So relative to the model itself being certified by the Florida Commission, it's the same underlying model. And there are a few standards that would need to be met additionally based on the generation of a new catalog.

SENATOR GELLER: But affect the price by over 40 percent?

MR. LALONDE: Not in our current approach of the model, it's not that kind of number. It's probably more a 10 to 15 percent range in the state of Florida for the impact of the near-term model.

THE CHAIRMAN: Let me just jump in there then, Mr. Lalonde.

When we had Allstate here with us, we asked

that very specific question: Did you score the long-term model -- or the model? And the answer was, no, which Senator Posey's comment a little while ago, all of us found remarkable. However, did you score, after using the near-term catalog, what the change would be? Answer, yes, it was going to change the dynamic of our rating by an increase of 42 percent.

Well, how do you get that number if you haven't scored the long-term? I don't know how you do that. But their answer was, that instrument alone created that change in the rate filing.

Do you find that to be news?

MR. LALONDE: I think that in our initial release of a near-term catalog in 2006, I believe that the difference within the state of Florida would have been in the magnitude of 40 percent. The difference in the current model released in 2007 is about 10 percent.

And I will back up a little bit to finish answering a question when I give a little bit of light into history and you see how this is developed over time. And AIR, back in its early days in the early '90s, you know, was publishing research on the impact of climate on hurricane

risk, and has been following this, you know, since our inception.

In the mid-'90s, we produced, under the same model, similar to the short-term catalog, but catalogs based on El Nino years versus La Nina years. So we had alternative views. This is done to help companies using the model understand the uncertainty and sensitivity of different scientific approaches to the modeling.

This was followed by a venture in 2001 with a firm called Accurate Environmental Forecasting where we started developing seasonal forecasts of risk made available to our clients, which actually tried -- attempted to forecast the next hurricane season and make a special catalog based on that.

This model was available in 2001 through 2004, in which case we started issuing a seasonal forecast, yes, the seasonal forecasting in 2004. We put out a full catalog -- I'm sorry, back in 2001 it was real-time events.

DR. DAILEY: Maybe I can clear up --

MR. LALONDE: Yes, you clear it up.

THE CHAIRMAN: We're going to have to move along real quickly --

MR. LALONDE: Okay, sure.

THE CHAIRMAN: -- so let me just move to someone who has -- we have a couple of members who haven't had a chance to ask; like, Senator Ring, you were the next up with a hand raised.

SENATOR RING: Thank you, Mr. Chair.

Could you clarify something for me? You said earlier that you don't build your models to set rates. Did I mishear that, that it's more --

MR. LALONDE: I don't know if that was said, but that's certainly true.

SENATOR RING: But the insurers do use your models to set their rates?

MR. LALONDE: One of the uses of the model that insurance companies do is in helping them come up with the technical rate for the underlying loss costs that they use in an ultimate rate filing.

SENATOR RING: And they're doing that on an annual basis? Even though your models may not be necessarily that, they're setting it on an annual basis?

DR. JOHNSON: In general, Florida law does require annual rate filing.

SENATOR RING: Yes. So my question is: Were your models -- were they right last year, the year before? In other words, I guess where I'm going

is, obviously the seasons that we have had the last two years were not what we predicted by any stretch. And even though what you're saying is, well, you do it for long term and whatnot, the insurers are using that to set rates.

So if you're wrong on a year or two years or three years or five years, then is that true, that that's affecting the consumers and that's actually being leveraged to increase rates dramatically here?

MR. LALONDE: I think you will have to restate that question.

SENATOR RING: I mean, I think -- well, I will restate it a different way: How much -- when we look at the science -- because I keep hearing the word "science," okay, science, science, science.

You've all testified, and I appreciate that you have -- I'm grateful for the fact that you have testified that science can only take us so far, that there's a lot we don't know. And it would seem to me that a lot of these rates that the insurers are using are based upon -- I mean, a big chunk of it is a guessing game. Now, some of it's not, some of it you have gone to a certain area, but a lot of it is just a guessing game.

And I think that seems to be to me the core, the vortex of this problem that we're really facing as a state, is that the models that are out there aren't effective from the standpoint that you will never have the science to make it totally effective, not that you're not doing what you can do with what you have.

But you will never have the full science to actually do what's ultimately needed to truly effectively use your research, which ends up being used to set rates. And I guess that's where I'm going with this.

MR. LALONDE: The average annual loss reflected in the model reflects the probabilities of high seasons of activity and low seasons of activity, and it's the probability-weighted average.

And you're not going to expect the average to be what's experienced in any given year. But over time if you keep collecting the average, you will expect to break even.

Do you want to add to that, John?

MR. ROLLINS: I would just point out that the actuaries and the insurance companies who ultimately have to set rates have a responsibility

to look at lots of -- and really all relevant information that sort of meets a standard in professional judgment that it becomes relevant.

So we don't -- while we don't participate in that process, we are one provider of information in that process. And, in particular, to address your question, Senator Ring, we provide models because we feel that the science does take us far enough that we can provide a scientifically-tenable picture of the possibilities.

We cannot in any one season, because the nature of catastrophic events is zero, zero, zero, kaboom, or in the case of 2004, kaboom, kaboom, kaboom, kaboom. But you have a lot of zeros in there. You have a lot of years that are quiet. You have a few years where you have extreme events.

And when you have those kinds of -- with that kind of profile, that kind of picture of losses, it's exceptionally important to use some kind of tool that gives you a picture of what could happen, rather than what did happen last year, what will happen next year, what happened five years ago.

And, in fact, under actuarial standards, it would be rather irresponsible -- for example, no one -- I certainly wouldn't submit a rate filing

that was based on five or ten years of Florida hurricane experience at this time. That would be malpractice, and it would be very deleterious to consumer interest right now.

So I think the scientifically-tenable picture of the possibilities is where the models advance us. They do not simply tell us the answer next season.

SENATOR RING: And then just to follow up, but I think there's a disconnect there, and maybe the disconnect is not so much the work you're doing, but what that information is being used for. In other words, you're doing the best you can do with what you have, but because the disconnect that we have -- that the insurers have to set rates annually, or they switch, you know, some of them from long term to short term overnight on us, I'm not sure your information is being used responsibly even if it's being collected responsibly.

MR. ROLLINS: I would have to agree that the use of our information is a valid concern --

THE CHAIRMAN: Senator Baker.

MR. ROLLINS: -- and it extends well beyond our ability to sort of manage that. However, I would say that we offer as much education, as much

public speaking, white papers, conferences, seminars.

In fact, I direct a certain level of elite training for the company. So I know we've put a lot of effort into education, but it's certain that we can't guarantee an outcome in any state or in any particular market.

THE CHAIRMAN: Senator Baker, you're recognized.

SENATOR BAKER: Thank you, Mr. Chairman. I think this is for Dr. Dailey, and this is -- I get a lot of questions about the rising sea temperatures and how they affect hurricanes, so I just want to -- I just get that question all the time.

So you have 100 years worth of studies. Do we show an increase -- have we shown a substantial increase in ocean -- surface ocean temperatures recently; and, also, how would that compare to the increase in hurricane activity I think we had in the '40s or '50s where we had a ton of hurricanes? Did we also have a corresponding increase in surface temperatures at that time?

So did it happen then, and have we seen a slowly increase in surface ocean temperatures?

DR. DAILEY: Well, what can be said is, first of all, the historical record for sea surface temperatures in the Atlantic is fairly extensive. We can go back to the early part of the 1900s. But just like any other dataset, it's going to be higher quality data the more close we get to present.

Within the scientific community, and part of the research that we've focused on, is to get an assessment of natural cycles and trends. Trends may be partly natural and partly man-induced. And within the Atlantic Ocean -- the Atlantic Ocean is a unique ocean in that it's a fairly enclosed, relatively small one.

And there is a current system known as the thermohaline circulation that may induce -- this is a theory, not a fact -- but may induce a natural cycle, and that natural cycle may last for decades.

Now, if you look at the historical records, there are indications that there is this natural cycle that, as you mentioned back in the '50s, was warm, turned to cool in the '70s and '80s, and then in 1995 to present has been warm every year; where if the cycle is truly existent, then we're in the middle of that warm cycle today.

So part of it would be that going forward we would expect, if that cycle exists and if it does last for, let's say, 30 years, we're, say, 15 years into it, we would expect it to persist forward.

Now, another part of the puzzle is understanding trends. Trends may be induced, say, for example, by climate change, so-called global warming. Now, that's a tougher one, because in order to compute that trend you have to take into account, how long has it been lasting, and is it a linear trend, is it basically kind of going incrementally up every year by the same amount?

Now, there is a scientific debate even within that question, and some would say that what you see in the historical record in the form of cycles is actually not this ocean-induced cycle, but is actually episodically induced by, say, volcanic eruptions and other activities in the atmosphere that may induce a short-term period of warming overlaid on a long-term trend.

Now, that is not a question that has been answered. Despite the fact that the consensus may be that the atmosphere is warming, that does not necessarily mean that the ocean is or that every ocean is in the same way.

So I can't really answer your question except to say that the scientific community is partly focused on trying to extract those two pieces of the signal within the Atlantic, what part of it is trend, what part of it is cycle.

And unfortunately since we're in the middle of a cycle, if it does exist, it's very difficult. Maybe what will come about in, say, 15 years or so, is as we start to move from warm to cool, that will help us better understand whether there is a cycle and how long it lasts so that we can then extract the trend.

But just in and of itself, that's just one piece of the larger puzzle. And even there there's sort of a contentious debate that goes on.

THE CHAIRMAN: Senator Fasano, you're recognized.

SENATOR FASANO: Thank you, Mr. Chairman. I'll do it as quickly as possible.

Your model was approved by the Commission?

MR. LALONDE: Our model has been certified by the Commission since 1996, yes, annually.

SENATOR FASANO: And what insurance companies have used your model when putting in for rate requests with OIR?

MR. LALONDE: I'm not sure which companies have used the model for rate requests with OIR. We deliver results to our clients. We may be aware of some clients using it because we get questions back from the OIR; but we have over 400 clients, and I can't tell you a list at this time.

SENATOR FASANO: So you're not aware of when a property and casualty insurance company puts in for a rate request whether it's higher or lower, whether they're using your model as --

MR. LALONDE: Not necessarily, unless we're called in on their behalf to assist in answering questions, et cetera.

SENATOR FASANO: Okay.

MR. ROLLINS: Senator Fasano, for some help, however, that is public information. I don't believe there's ever a case in which a company making a filing could keep that a trade secret. And, also, you might ask OIR those kinds of questions, because I think a compilation of which companies are using which models might be valuable to you in some capacity.

SENATOR FASANO: Using your model with a filing, would the potential of a rate reduction occur, do you think?

MR. LALONDE: It depends on their current rate level. It's always possible.

MR. ROLLINS: I think reduction from what?

SENATOR FASANO: Pardon?

MR. ROLLINS: I think reduction from what is the question you would have to ask. It largely would depend on the existing rate level at the company.

SENATOR FASANO: I couldn't help but notice --

MR. LALONDE: There are areas where the loss cost produced by our model has gone down in certain years in certain zip codes and certain counties based on different factors.

SENATOR FASANO: I couldn't help but notice that the Commission has accepted or certified five models, yours being one of them. Is that right?

MR. LALONDE: Yes.

SENATOR FASANO: Just out of curiosity, do you think that the arguments we heard from Allstate the other day saying that the model they used, of course, wasn't certified or approved, but they said that the -- that there's nothing in the law that says that they must use it, use a certified model, do you think that we should change the law and be specific that insurance companies, property and

casualty insurance companies, should only use -- can only use approved models by the Commission?

MR. LALONDE: That's a difficult question. As part of our model, historically we have had a component called demand surge which you heard earlier talked about by the Florida Commission.

Demand surge has always been part of our model since Hurricane Andrew. However, in filing before the Commission, the Florida Commission, that was not an appropriate -- it was not viewed as something that could be used. And then in 2006, I believe, they flip-flopped and required the use of demand surge.

So all of a sudden the demand surge model, which we had had all along, was now subject to review. It was reviewed and certified still and then used by companies. So I think that there is value in things that happen outside of the certification process in being considered as part of the information that goes into a rate filing.

SENATOR FASANO: And, finally, Mr. Chairman, do you think that -- why do you think Allstate didn't use any of the approved models?

MR. LALONDE: I can't comment.

SENATOR FASANO: Okay. Well, thank you.

Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you, Senator.

Senator Peaden, you're recognized.

SENATOR PEADEN: Thank you, Mr. Chairman. I've got a couple of questions, and one procedural question. In your model, when you're developing the model, there's no coordination, collaboration or communication with your customers or insurance companies before or during the time you're developing the model?

MR. LALONDE: That's a difficult question to ask.

SENATOR PEADEN: Well, I'll break it down in --

MR. LALONDE: For instance --

SENATOR PEADEN: -- collaboration, coordination or communications, either three.

MR. LALONDE: Obviously, there is communication with our clients. One of the sources of information we use in validating our model is to obtain actual detailed claims data from our clients from actual events that have happened.

We get that information, what are the actual losses you paid, then we use that within our model to say, did we get it right or not. So it's an

important source of validation of the model, is to use client information.

So there's -- there is discussion about, what are your losses. They send the losses, but we don't then -- we then use that internally to review it. And we may share the results with our clients, but it doesn't -- but that's the nature of the type of communication that we would have with our clients relative to model development.

SENATOR PEADEN: Now, Mr. Chairman, when you -- when the product is sold to your customers, do they solicit it, or is it periodically sent to them? Whenever you develop a new model, how is that process developed?

MR. LALONDE: Our clients, it's delivered software products and consulting services. The software products are usually released annually, potentially biannual, or twice a year, with updates. Any updates are sent to clients.

The models annually would be re-licensed. It's an annual license, and the client would re-license the model and would be sent the update.

SENATOR PEADEN: So there's no specific orders, like you'd order a computer with specific specifications?

MR. LALONDE: No, no, there isn't. There's certain -- within the software, you can purchase different models, for instance: Hurricane models and earthquake models, severe thunder storm, wild fire. Different perils are -- and different regions around the world are licensed separately.

SENATOR PEADEN: Thank you.

THE CHAIRMAN: Senator Posey, you're recognized.

SENATOR POSEY: Thank you, Mr. Chairman.

Obviously, we've been having some global warming beginning with prior to the end of the last Ice Age. Do you find that the criteria in the Pacific and Atlantic are similar, or are they going in opposite directions? You know, do you see any relationships, common denominator between the two?

DR. DAILEY: Very good question. That's another subject of debate. But what I can say is that certain climate signals, for example, the ENSO system, the El Nino/La Nina cycle, which most people have heard of, is an example of a periodic signal similar to what I was talking about earlier within the Atlantic that affects worldwide weather.

And what some of the science indicates today is that ENSO can affect tropical activity in

opposite ways in the Atlantic and Pacific. And the connection then comes back to, what's the correlation? There seems to be a significant negative correlation between Atlantic and Pacific activity under ENSO conditions.

SENATOR POSEY: Can you-all put that in your equation? I mean, can you kind of track that? Does it have impact on ours? And we're running out of time. Maybe this is a more important question -- we'll just move on to the next one -- do you have an incremental model based on mitigation?

Like if we had 20 percent of our state mitigated, the percentage of damage would go down 30, 40, 50, 60, 70, 80, 90? I mean, I think we'd all like to know that. I think that's -- you know, could be an immediate total solution to our crisis if this state was hardened. And it's just so hard to get the public to grasp that and --

MR. LALONDE: Within the model -- within the certified model, there are options for more detailed information about the structure, if you know whether or not you have shutters on your house, whether you have hurricane straps or other mitigation factors, that information can be put

into the model. There are modifications to the vulnerability functions based on those features.

So whatever features you have, the impact of that on the relative loss cost is available from the model. That's one of the advantages of using a model. If you don't know what the impact of a certain mitigation device is, you can look at the model and say, well, what if I put it on that building, how much savings is there?

SENATOR POSEY: And we've kind of gone there, but we haven't got the big picture perspective statewide. And I'm just wondering if you've ever run a model and said, here, here's the difference if this state was 20 percent residential, was hardened 30, 40, 50, you know, just to the 2001 building code level, John?

MR. ROLLINS: Senator Posey, that's a very good question, and mitigation efforts in Florida are ongoing on a number -- there are a number of prongs of attack we are engaged in in mitigating and hardening our homes in the state. And I know you're a leader in that area.

The comprehensive -- or the most comprehensive way to study that question would be to do sort of a dedicated study statewide and look at the results,

and the results would be very interactive.

So, for example, putting storm shutters on a house and building the roof shingles a different way in compliance with the Florida Building Code, or putting on hurricane straps, it's not simply an A plus B plus C type number. So the modeling of that -- for example, if the envelope is breached in the house, then all the great roof that you have in the world might not save it.

So there's a lot of engineering interaction there. AIR is a leader in studying that. However, I'd also point you to the state-funded study that has been done on that in past five years.

Now, that study will be updated this year. Unfortunately, we offered to do that, and we're not contracted to do it, but it will be updated this year and it will be interesting to see what level of interaction persists and what the -- sort of the overall numbers look like given the now current state of the science, which as Mr. Lalonde's answer a moment ago said, it has a lot to do with that new data, that 2004-'05 hurricane data which has been collected and analyzed to sort of validate the ability of the model to discern mitigation features.

SENATOR POSEY: But you're not aware that, for the good of the order, we've ever run an incremental mitigation impact?

THE CHAIRMAN: Senator, I'm going to have to --

SENATOR POSEY: Yes, I'm sorry.

MR. ROLLINS: AIR has not produced a -- you know, sort of a comprehensive statewide study which would track exactly that that you have might have seen in the public domain. Is that correct?

MR. LALONDE: Not a publicly-available study, no. We may have done some such work for clients using our model.

THE CHAIRMAN: Mr. Lalonde and Members, thank you. We have reached -- we're going to have to wrap up. But I think you had heard from Senator Posey earlier, as the Chair of the Banking and Insurance Committee, I think it's highly likely that we will be inviting people to come back and continue to visit with us on the matter.

Let me just give you a quick take on where we're at, Members, because we have got less than two minutes to go. The time that the Select Committee was established, we've had these four meetings in the midst of what was already scheduled

committee weeks, and I think the importance that President Pruitt has shown to this is to actually cancel other committee meetings so that we could have this time.

And we've had five companies visit with us: The Office of Insurance Regulation, an outside consumer expert, modeling experts, this company here today, and our own modeling commission on reinsurance.

What we will be -- the Chair and I will be asking the President today is for time when we can gather to talk about our recommendations to the Legislature, to himself personally, to pass along to the substantive committees for the session.

It is certainly our desire that he would provide us with that time as early as possible. If he has any other methodology by which we will collect that, those recommendations, I'm not aware of it; but I would inform you of that, because it's our desire that we would try to take all that we have been hearing and provide that back to him in recommendations so that they can, in some way, be put to use this very legislative session. And that's obviously been the objective that he had when he created us.

So with that, Members, you will be hearing from the Chair and I as to the going-forward point from here and to our best process for collecting those recommendations for the session.

With that and with time expiring, Senator Storms moves to rise. Thank you, Members.

(Meeting adjourned at 11:45 a.m.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, CHRISTI K. COLE, Certified Professional Reporter, certify that I was authorized to and did stenographically report the proceedings herein, and that the transcript is a true and complete record of my stenographic notes.

I further certify that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

WITNESS my hand and official seal this 27th day of February, 2008.

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